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ABSTRACT

Designed for elementary and secondary teachers, Project WILD is an interdisciplinary, supplementary environmental education program which emphasizes wildlife. This study examines the process of curriculum implementation as exemplified by Project WILD in Ohio by tracing its implementation from the national level to the use of instructional materials in the classroom. In this case, curriculum implementation refers to actions undertaken to put into effect educational programs, policies, and/or practices which already exist and are new to the people attempting or expecting to use them. Naturalistic research techniques used for data collection included participant observation and interviewing and documentation at four levels of implementation. Emerging from the results were seven themes, including: (1) curriculum implementation evolved as a complex process with overlapping and interactive processes; (2) safeguards for implementation included the quality and nature of Project WILD and the structure of the inservice program; (3) workshops were the most important strategy for implementation; (4) an emphasis on flexibility permeated the implementation process, workshops and materials; (5) teachers were viewed as significant players in implementation; (6) a partnership between resource management and education played an important role; and (7) implementation was shaped by an element of fate and the human dimension. (TW)

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A CASE STUDY ANALYSIS OF CURRICULUM IMPLEMENTATION AS EXEMPLIFIED BY PROJECT WILD IN ONE MIDWESTERN STATE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate School of
The Ohio State University

By

Diane C. Cantrell, B.S., M.S.

* * * * *

The Ohio State University
1987

Dissertation Committee:
Gail McCutcheon
John Disinger
John Daresh

Approved by

Gail McCutcheon

Advisor
College of Education

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To Dirk

For his Steadfast Love and Support

and

To My Parents

For Their Lifelong Nurturing

ACKNOWLEDGMENTS

I would like to express my sincere appreciation to Dr. Gail McCutcheon, my advisor, whose insights into teaching and ability to illuminate teaching through research piqued my own interests in research; to Dr. John Disinger whose advice and guidance through two graduate degrees has significantly shaped my thinking about environmental education and whose long-time support I cherish; and to Dr. John Daresh whose assistance, comments, and humor were equally well appreciated.

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VITA

November 26, 1949	Born--Altoona, Pennsylvania
1971	B.S. in Education, The Ohio State University, Columbus, Ohio
1971-1975	French and English Teacher Eastmoor Junior High School Columbus, Ohio
1975-1976	M.S. in Environmental Education, The Ohio State University, Columbus, Ohio
1977-1979	Education Specialist Ohio Department of Natural Resources
1979-1982, 1984-1986	Graduate Associate, The Ohio State University, Columbus, Ohio

PUBLICATIONS

Roth, R.E., Cantrell, D.C., & Bousquet, W.S. (1980). Impact on environmental education. In W. M. Hammerman (Ed.), *Fifty years of resident outdoor education: 1930-1980*. Martinsville, IN: American Camping Association.

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FIELDS OF STUDY

Major Field: Curriculum

Studies in Curriculum and Research: Gail McCutcheon

Studies in Environmental Education: John Disinger

Studies in Inservice Education: John Daresh

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CHAPTER I

INTRODUCTION TO THE STUDY

Off a quiet street on the east side of Boulder, Colorado, an employee of a printing company walks past a placid lake in a large industrial park on his way to work. A touch of fall seems to be bringing summer to an end. Inside the large warehouse, he prepares to ship the annual printing order of Project WILD books. As he walks through the printing facility into the storage room, he glances over the letter from the Project WILD national office listing the number of books requested by each state. Each year the list grows longer. After passing rows and rows of books, he sets his clipboard down on a wooden pallet next to the Project WILD books in boxes stacked high above his head.

* * * * *

The morning sun dries the last of the dew off the playing field of an elementary school in a midwestern state.

"On the count of three you may turn around and go. Ready? One!"

As if preparing to play "red rover, red rover," 8 fifth grade students stand in a line on one end of the playing field while 25 stand in another line, parallel to the first, about 50 feet apart. But their backs are turned towards each other.

Some giggles drift toward the teacher as he calls out, "Two!"

Within each line students begin to move, watching each other. Some place a hand over their mouths. Others join their hands together in an arch over their heads. Some clasp their hands together holding their stomachs.

"Three!"

Both lines turn around to face each other. The eight students on the one end dash toward the other students who stand still, opposite them. Giggles, squeals, grunts and excitement fill the spring air. One boy with a hand over his mouth grabs the arm of another boy holding an identical pose. Two girls holding their stomachs charge toward another girl holding her stomach, a bit wide-eyed as she watches her friends racing towards her. Janet arrives first, leaving Sara scrambling to find someone else exhibiting the symbol for "food." All she sees are symbols for "water" and "shelter." Finally, noticing Mark with his joined hands hooked on his belt, she snatches his arm and runs after the other pairs of students, back to the other end of the field.

Mr. Collins counts the number of students who successfully found a match and records the number on a graph labeled "Deer Population." For the first round, all the deer successfully found the habitat component they were seeking. "Are you ready for round two? Turn your backs. Make your symbols. Remember, if you do not find what you are looking for, you die and become part of the habitat. One!"

The scene repeats. Sixteen deer rush to the opposite end of the field in search of food, water or shelter. "Alexis is cheating. She changed her sign!"

"No, I didn't." She smiles and collapses on the ground. "I know I'm dead."

This time 28 deer triumphantly run back to their starting line.

"Turn your backs. One, two, three!"

The five students representing habitat huddle together nervously as they watch the thundering herd near. The students seem to run faster this time, knowing that at most only five of them will survive this time and reproduce. Out of temporary chaos, ten deer emerge, ready to play the next round. The activity continues with Mr. Collins recording the deer population at the end of each round.

During the seventh round, the deer dash off towards the habitat, but soon moans and groans arise. Most of the deer dwindle to a halt. They notice that all of the habitat students are food--no water, no shelter. Then laughter and talking. "Hey, they ganged up on us. Is that fair, Mr. Collins?"

The activity continues.

After two more rounds, their teacher calls them over to the side. He overhears one student, out of breath, gasp, "That was fun. I hope we can do this again tomorrow."

Pointing to the large graph, Mr. Collins begins, "On the vertical axis we have 'numbers of deer' and on the horizontal axis we have 'year.' Each round that you played represented one year. What do you notice about the deer population from year to year?"

Hands shoot into the air with excitement. "Sara."

"At first it was small but then it started to grow bigger and bigger. Then it got real small. But then it got big again."

"That's right. Why do you think that the deer population zigzagged up and down like that over and over?"

The discussion continues. Students catch their breath but they do not lose their enthusiasm as they discuss habitat, population dynamics, limiting factors, and carrying capacity.

* * * * *

Supplementary instructional materials sit in a storage room. Fifth grade students learn about complex ecological principles. What happens in between? What process brings a set of learning materials into the hands of teachers and into the lives and minds of children? Who decides to adopt a new program? When? Why? How? Is it actually used? As intended? To what extent? By whom? Where? When? Why? How? What conditions facilitate the process? Impede the process? What strategies are used for planning? for promotion? for staff development? Are they effective? Why? Does the warehouse actually represent the beginning point? Is student learning the finale?

Curriculum implementation--what is the nature of this process that enables one innovation to germinate, grow, bloom and reproduce in the schools while others lie dormant under the earth, wither as seedlings, bloom but never produce seeds, or remain in their sealed packages never to reach the fertile soil of education's fields?

Statement of the Problem

Few researchers or practitioners dispute the view of curriculum implementation as a complex and poorly understood process. In addition, most agree that the era of curriculum reform produced more failure than success. In the past, many research studies have evaluated the success of a program by determining the extent of student achievement. They found that this information, while valuable, was insufficient. Following the comprehensive Rand Change Agent Study, Berman and McLaughlin (1976) concluded that "It may be misleading and of little help to policymakers to examine the relationship between treatment and student outcomes without first having a systematic understanding of implementation" (p. 349). Fullan (1982) concurs:

> Implementation is the means to achieving certain outcomes; evaluations have limited value and can be misleading if they only provide information on outcomes....Of course, information can and should be gathered and assessments made throughout the process. The single most important idea...is that change is a process, not an event--a lesson learned the hard way by those who put all their energies into developing an innovation or passing a piece of legislation without thinking through what would have to happen beyond that point. (p. 41)

As researchers came to this realization, they began to focus their attention more and more on the process of educational change and specifically on curriculum implementation as a key factor within this process. Fullan and Pomfret (1977) suggest four reasons why it is important to study implementation separately. First, "we simply do not know what has changed unless we attempt to conceptualize and measure it directly" (p.336). Similar to Berman and McLaughlin's conclusion, they argue that what happens between the time of development and adoption and the time when consequences are evident is a period that is unknown, falsely assumed to be unproblematic. Second, an examination of implementation would lead to a better understanding of "why so many educational changes fail to become established" (p.337). Third, failure to study it "may result in implementation being ignored, or else confused with other aspects of the change process such as adoption...or determinants of implementation..." (p.338). Finally, unless implementation is examined separately, "it may be difficult to interpret learning outcomes and to relate these to possible determinants" (p. 339). Variation in learning outcomes may reflect differing degrees of implementation as well as other factors such as teacher experience or student characteristics.

Progress has been made in recent times in the study and understanding of curriculum implementation.

> In the 1960s educators were busy developing and introducing reforms. In the 1970s they were busy failing at putting them into practice. Out of this rather costly endeavor (psychologically and financially) has come a strong base of evidence about how and why educational reform fails or succeeds. (Fullan, 1982, p. 5)

But gaps in knowledge exist and theories remain sketchy. Much research still focuses on student cognitive and affective gain resulting from exposure to a promising innovation. The need still remains for comprehensive descriptive studies of curriculum implementation--what it is, how it works, and why.

Purpose of the Study

The purpose of this study is to examine the process of curriculum implementation as exemplified by Project WILD in one midwestern state in order to increase understanding about this process and its relationship to what is currently known about curriculum implementation. The study uses naturalistic research techniques to follow the process from the national level to the actual use of the instructional materials in the classroom. It focuses on three major phases: 1) program adoption and planning, 2) inservice workshops, and 3) classroom use of materials. These three represent elements of the broader process of educational change, with the first two serving as determinants of the third. Since implementation does not occur in isolation but within a broader context which affects meaning and understanding, the overall process must also be investigated. In addition, the role of the researcher as a participant and observer within the process is addressed.

Research Problem and Definition of Term

This study involves a comprehensive examination of the total curriculum implementation process. Specifically, it will answer the following question: What processes of curriculum implementation are exemplified by Project WILD in the research state? In order to investigate this question, it is necessary to define the term "process of curriculum implementation."

For the purposes of this study, the process of curriculum implementation refers to "actions undertaken to put into effect educational program(s), policy(ies) and/or practice(s) which already exist and are new to the people attempting to or expected to use them." This means that curriculum implementation is viewed as a process separate from that of curriculum development. It is noted, however, that in pilot testing a new curriculum, a proposed implementation process or a variation thereof may be an integral part of that field testing process. This definition implies a conceptualization of curriculum implementation which is broader than "actual use" since what precedes use often determines the nature of use.

Consider also that curriculum implementation may occur along a continuum which ranges from a relatively **simple** process (e.g., teachers purchase educational materials of their own choosing to use at their own discretion in their own educational settings) to a relatively **complex** one (e.g., statewide adoption of a competency-based reading program requiring inservice education of all elementary teachers followed by elaborate monitoring and evaluation systems designed to assess pupil performance and program effectiveness). As a supplementary educational program, Project WILD fits under this definition. As designed, the implementation process of Project WILD approaches the complex side of the continuum.

Overview of Project WILD

"Project WILD is an interdisciplinary, supplementary environmental and conservation education program emphasizing wildlife" (Project WILD, 1985, p.vii). It was designed for use by teachers in all major areas of study in kindergarten through twelfth grade but is also appropriate for individuals working with youth and adults in nonformal educational settings. The Project WILD materials consist of two activity guides, one for elementary (K-6) and one for secondary (7-12) teachers. Each contains approximately 80 activities to be incorporated into the existing curriculum, a conceptual framework, and a variety of cross-reference indices and other aids. Each activity, in a lesson plan type format, includes objectives, method, background information, materials, procedures, extensions, and evaluation. According to the "Preface" to each activity guide, the program presents a balanced approach to study of wildlife and is designed to "assist learners of any age in developing awareness, knowledge, skills, and commitment to result in informed decisions, responsible behavior, and constructive actions concerning wildlife and the environment upon which all life depends" (p. vii).

Project WILD was developed through the joint efforts of the Western Association of Fish and Wildlife Agencies and the Western Regional Environmental Education Council (WREEC). The Western Association is comprised of the directors of the state agencies in 13 western states who are responsible for management of wildlife in their respective states. WREEC is a not-for-profit corporation composed of representatives of the state departments of education and state resource management agencies in thirteen western states (p. vii).

The materials were written by classroom teachers and other educators, resource agency personnel, representatives of private conservation groups, and other community representatives. They were pilot tested and revised during the 1981-82 school year and field tested and revised during the 1982-3 school year. Project WILD and/or its sponsors have received awards and/or recognition from the Conservation Education Association, National Association of Biology Teachers, National Council for the Social Studies, National Science

Teachers Association, National Wildlife Federation, North American Association for Environmental Education, and The Wildlife Society.

Overview of the Project WILD Implementation Process

In order for educators in any state to be able to receive the guides, a sponsoring agency, typically the state resource management agency, signs a contract with WREEC agreeing 1) to pay a one-time association fee to WREEC ($7,000 for each non-western state; $10,500 for each western state, plus a $1,000 annual fee for three years), 2) to facilitate the introduction of Project WILD materials to elementary and secondary children by providing materials to teachers and adult leaders only through workshops meeting guidelines established by the Project WILD Steering Committee, and 3) to appoint an official representative to whom all official communications can be directed.

In addition, a state coordinator (usually the same person as in #3 above) should be appointed to initiate, supervise and maintain Project WILD activities in the state. It is also recommended that a state-level planning and advisory committee be formed to assist with the implementation and maintenance of the project and that a long-term implementation plan be developed by the state coordinator and the advisory committee to guide the process.

As part of the contractual agreement, WREEC provides Project WILD facilitators to conduct or assist with one or two leadership (facilitator) workshops in the state for people who will then become qualified Project WILD facilitators. These state-level facilitators then conduct teacher workshops for educators who will use the materials in their classrooms or in nonformal education settings. Facilitator workshops are at least 12 hours in length and teacher workshops are recommended to be no less than 6. As of 1987, Project WILD was being implemented in 39 states and 6 Canadian provinces. Ninety-seven thousand educators have received the materials since the beginning of implementation four years before. While all sponsors follow the same policies for implementation, variations in approaches to implementation exist from state-to-state and province-to-province.

In the midwestern state in which this study was conducted (i.e., the research state), Project WILD is officially sponsored by the state department of education (i.e., this agency signed the contract); however, it is co-directed by the department of education and the wildlife resource agency, with both providing funding, staff and resources. In addition, extra monetary assistance is provided by a statewide conservation organization which is the state affiliate of the National Wildlife Federation. See Figure 1 for an illustration of this implementation process within the research state.

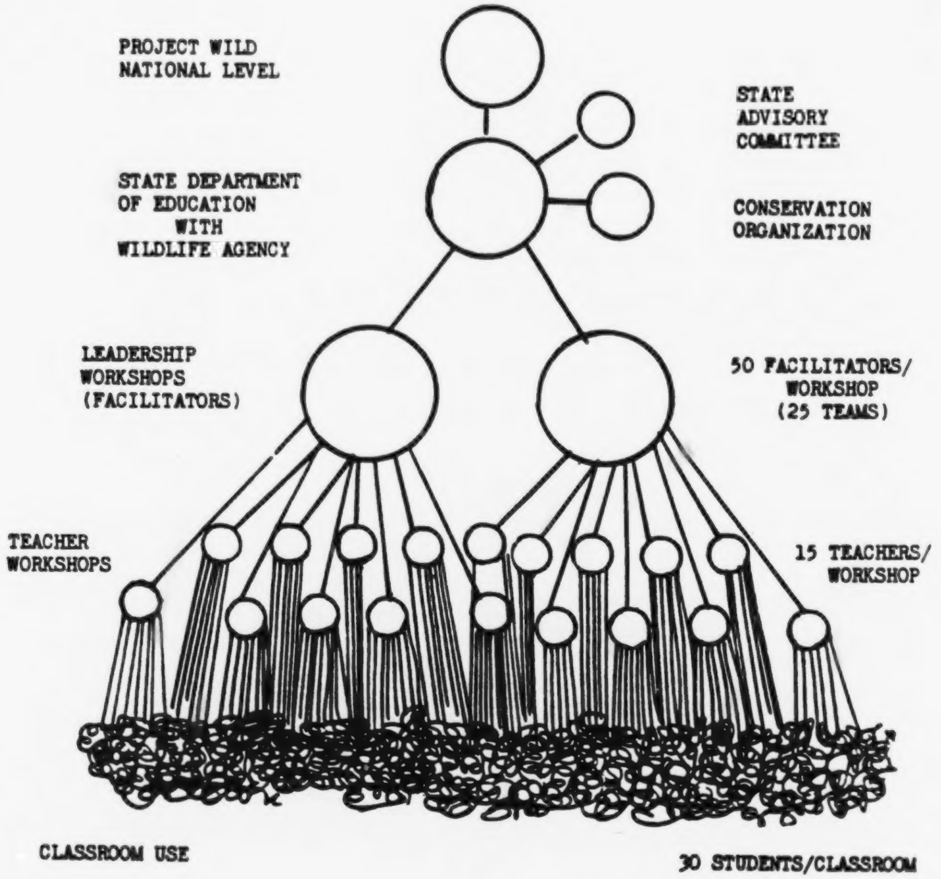

PROJECT WILD
NATIONAL LEVEL
STATE ADVISORY COMMITTEE
STATE DEPARTMENT OF EDUCATION WITH WILDLIFE AGENCY
CONSERVATION ORGANIZATION
LEADERSHIP WORKSHOPS (FACILITATORS)
50 FACILITATORS/ WORKSHOP (25 TEAMS)
TEACHER WORKSHOPS
15 TEACHERS/ WORKSHOP
CLASSROOM USE
30 STUDENTS/CLASSROOM

Figure 1

PROJECT WILD
IMPLEMENTATION PROCESS IN THE RESEARCH STATE

Need for Research Study

In general, as previously discussed, a need for naturalistic research on curriculum implementation exists. In particular, Project WILD is the second in a series of environmental education programs developed under the direction of WREEC. Project Learning Tree (PLT), also an award winning supplementary, interdisciplinary environmental education program, was produced beginning in 1973 in cosponsorship with the American Forest Institute (AFI), now known as the American Forest Foundation. Developed for use by elementary and secondary teachers, the materials are designed to increase the students' understanding of their interdependence with the total forest community and to develop the knowledge, skills and commitment necessary to make wise decisions regarding the long-term use of forest resources and products. As of 1987, PLT has been implemented in 46 states and 6 Canadian provinces, with over 96,000 teachers and youth leaders having received the instruction and materials. PLT provided the model for the development and implementation of Project WILD.

PLT and Project WILD are not the only environmental education materials which are available to teachers only through teacher workshops. This process of curriculum implementation has been and continues to be used for other programs (e.g., CLASS Project, produced by the National Wildlife Federation; Outlook, produced by the Iowa Department of Public Instruction, et al.); yet little research has been conducted to examine the nature of this process and its implications for the use of these materials or other curriculum development efforts.

Federal and state governments, private organizations, business and industry, local school districts, classroom teachers, parents and students--a variety of people participate in this process in various ways, to varying degrees, with varying levels of understanding and success. Some seem to wear blinders, others seem to possess a crystal ball. Some respond as puppets, others blaze ahead as innovators. Some stumble through an educational obstacle course, others emerge less soiled. A better understanding of Project WILD's implementation process may help explain these differences and provide knowledge for practitioners and theorists working in environmental education as well as in other fields.

Related Research

Several research studies have been conducted on PLT and Project WILD. Most of these involve user surveys at both the national and individual state level, including one on the research state. While these provide helpful information on use (e.g., percent of workshop participants using one or more activities; frequency of use; with whom; estimated number of students reached per year; reasons for use, how incorporated), they do not examine the total implementation process.

Both programs have been evaluated in terms of student cognitive and affective gain. One study of Project WILD (Fleming, 1983), commissioned by WREEC as part of the field testing procedure, examined 1) the effects of Project WILD on changes in student learning and attitudes about wildlife and 2) teachers' reactions to the Project WILD implementation and materials. The study involved 259 teachers and more than six thousand elementary and secondary students from three different states and three demographic areas (rural, suburban, and urban). It addressed six issues:

1. Is Project WILD equally effective with elementary and secondary students? Does the project's success depend on grade level?
2. Is Project WILD more successful if teachers get materials through the mail or through a workshop?
3. Are there differences between teacher and student performance by state?
4. Is student success dependent on residence in rural, suburban, or urban area?
5. Does teacher interest affect student learning or attitudes?
6. Was Project WILD used as an interdisciplinary curriculum? Did high school students in one subject area learn more than those in others?

Questions #2, 5 and 6 are relevant to this study because they relate specifically to the curriculum implementation process. From the study, Fleming concluded that although attending workshops may not have produced greater cognitive gains than simply receiving the Project WILD guides, the workshops did make a difference in the teacher's level of confidence in using the materials (question #2). Teachers who were coerced into participating in the study and/or had little knowledge of environmental education methods did not experience much success (questions #5). Finally, Project WILD was most often used to teach science (question # 6) (pp.43-4). These questions and findings again, however, address only part of the process. This study involves a more comprehensive examination of the implementation process.

Methodology

Naturalistic research methods were used throughout the study. Techniques for data collection included participant observation, interviewing and documentation at four levels of implementation--national, state, local (facilitator) and educator. Once initial entrance was gained at the state level, a research agenda was developed to assure a sampling of events across these four levels. Participation in the study was voluntary. Data gathering involved 52 interviews; observations of and participation in over 25 meetings and 4 facilitator workshops; observations of 3 teacher workshops and the use of Project WILD with 2 classrooms; and the collection of a variety of documents including agendas, minutes of meetings, newsletters, memos, reports, evaluation forms, letters, and activity record forms. Data in the form of typed transcripts, field notes, and documents were analyzed using appropriate naturalistic methods to assure trustworthiness of the data and interpretations.

Overview of Chapters

Chapter I summarizes the nature of the problem, the purpose of the study, the nature of Project WILD and its implementation process, the need for the study, related research, the research problem and the methodology. Chapter II reviews research findings, theories, and models from four fields of literature which relate to this study--curriculum implementation, educational change, inservice education and teacher planning. Chapter III describes the rationale behind the study and the methodology for data collection and analysis. Chapters IV through VII present the data and its analysis based upon the four levels of implementation. Findings, implications and recommendations are provided in the final chapter.

CHAPTER II

REVIEW OF THE LITERATURE

The overall program goal of Project WILD is to implement supplementary instructional materials which assist educators in teaching more effectively and efficiently about wildlife, environmental concepts, and responsible human action. Implementation is largely accomplished through inservice education strategies with the intent that teachers will utilize the new materials in their classrooms. This study of Project WILD consequently draws upon three major fields of literature: curriculum implementation, educational change, and inservice education and staff development. In addition, research on teachers' thought processes is included as a minor but related area. While Project WILD is compatible with school or district-wide improvement efforts, the materials were primarily developed to assist individual teachers. Therefore, this literature review focuses on these areas as they relate to the individual practitioner. Literature on organizational change, school improvement, and whole staff development, for example, were selectively reviewed for generalizations and findings relevant to individuals.

To conduct this review, two different computer searches were used. First, ERIC batch searches which covered the last four years were run on the three major areas of the study. Each of the following sets of descriptors on the right were crossed with the descriptors on the left.

1) Curriculum Development
   Elementary School Curriculum
   Secondary School Curriculum
   Curriculum Research

2) Educational Change
   Educational Improvement
   Educational Innovation
   Curriculum Enrichment

3) Inservice Teacher Education
   Faculty Development
   Teacher Improvement
   Teacher Workshops

Educational Theories
Educational Research
Program Effectiveness
Teaching Models

Since "curriculum development" is such a broad term with over 20,000 entries in RIE and CIJE, an additional on-line search of ERIC and Comprehensive Dissertation Index was run using the term "curriculum implementation." This was not only more specific but also covered more years. In addition, a hand search of curriculum journals was done. Sources from these searches and other materials already identified were then used to locate other pertinent documents.

Curriculum Implementation and Educational Change

Curriculum implementation is but one of the threads which is tightly woven into the complex process of educational change--a process which many recognize now as far more complex than previously perceived (Red & Shainline, 1987; Eisner, 1985; Huberman & Miles, 1984; Unruh & Unruh, 1984; Loucks & Lieberman, 1983; Kelly, 1980; Patterson & Czajkowski, 1979; Berman & McLaughlin, 1976; Zais, 1976; McKinney & Westbury, 1975; Reid, 1975). But it is this thread which may bind the fabric together, requiring the study of the whole in order to understand the part.

Romberg and Price (1982) argue that "it has become a tradition in education to make change by adopting or developing a new curriculum" based upon the assumption that this "is the easiest or best way to change school practices" (p. 154). This suggests a typical scenario: someone perceives an educational problem which can be changed through new curricula implemented with the intent of resolving the problem and accomplishing permanent educational change.

While failure of this process of educational change could occur at any point, many believe that implementation is the most critical factor. Adoption does not guarantee use and use seldom corresponds with intent (Romberg & Price, 1982; Berman & McLaughlin, 1976). MacDonald and Walker (1976) state that:

> The question of how new ideas and practices spread from their point of origin and gain widespread adoption is central to any system of planned change on a large scale. The enduring problem that has plagued the sponsors and planners of curriculum innovation is not the problem of creation, but the problem of impact. (pp. 4-5)

Eisner (1985), to make the same point, draws upon an analogy between potentially educational curricula and a musical score:

> In the last analysis, it is what teachers do in classrooms and what students experience that define the educational process....[Curriculum] materials, like a brilliantly composed musical score, need skillful and sensitive interpretation and a group of people who can interact meaningfully with what has been created. If any of these components is missing, the process fails. If the score is poor, it is not worth playing. If the performance is poor, it will be poorly received. If the audience is ill-prepared to deal with it, it will fall on deaf ears...And the fit between the teacher's "score" and the students remains as critical in the classroom as it is in the concert hall--probably even more so. (pp. 48-9)

In this way, the understanding of curriculum implementation is related to and dependent upon an understanding of educational change. Therefore, these two areas will be discussed as an integral unit rather than as two separate fields of study.

DEFINITIONS

The term "implementation" is used fairly consistently throughout the literature. Two major characteristics pervade the definitions. First, it is a process separate from adoption (Kimpston, 1985; Fullan, 1982; Fullan & Pomfret, 1977; Berman & McLaughlin, 1975). Second, it involves an innovation or practice in "use" (Rogers, 1983; Fullan; 1982, Mohlman, Coladarci, & Gage, 1982; Zais, 1976). Fullan and Pomfret (1977) provide the following comprehensive definition: "Implementation refers to the actual use of an innovation or what an innovation consists of in practice. This differs from both intended or planned use and from decision to use, the latter being defined as adoption" (p. 336). An "innovation" is generally regarded as something (e.g., idea, practice, product, process, program) that is new to the user (Huberman & Miles, 1984; Rogers, 1983; Loucks & Lieberman, 1983; Fullan, 1982; Hall, 1979; Huberman, 1973).

Eisner (1985) uses "diffusion" as a synonym for implementation. Rogers (1983), however, considers implementation as just one aspect of diffusion--"the process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 5).

In discussions of "change" and "improvement" (i.e., positive change), "process" and "difficulty" are emphasized (Lazerson, McLaughlin & McPherson, 1984; Huberman & Miles, 1984; Fullan, 1982; Berman & McLaughlin, 1976; Huberman, 1973). For example, "Change is viewed as a process rather than an event. Change is not automatically accomplished...by a memo decreeing that change will occur...[It] entails an unfolding of experience and a gradual development of skill and sophistication in use of an innovation; it is a developmental process which takes time" (Hall, 1979, p. 204). "Change is difficult to achieve. The difficulty increases with the degree of complexity of the change" (Hopkins, 1984, p. 14).

TYPES AND DEGREES OF CHANGE

Fullan (1982) believes that "one of the most fundamental problems in education today is that people do not have a clear, coherent sense of meaning about what educational change is for, what it is, and how it proceeds" (p. 4). In his efforts to establish some meaning, he indicates that the purpose of educational change is to "help schools accomplish their goals more effectively by replacing some programs or practices with better ones" (p. 11). He emphasizes the multidimensional nature of educational change by suggesting that:

> There are at least three components or dimensions at stake in implementing any new program or policy: (1) the possible use of new or revised materials (direct instructional resources such as curriculum materials or technologies), (2) the possible use of new teaching approaches (i.e., new teaching strategies or activities), and (3) the possible alteration of beliefs (e.g., pedagogical assumptions and theories underlying particular new policies or programs).
>
> All three aspects of change are necessary because together they represent the means of achieving a particular educational goal or set of goals. It is clear that any individual may implement none, one, two, or all three dimensions. (p. 30)

Huberman (1973) also suggests three kinds of change--hardware, software, and interpersonal relations (p. 9). He stresses the fact that the latter is directly tied to the first two because "most changes involve a different pattern of human behavior" (p. 9). In addition, he distinguishes between how much change is required (i.e., change in size and scope of operations, acquiring new skills, changing goals, changing values or orientation) and what kind of changes are involved (i.e., substitution, alteration, addition without changing old elements or patterns, restructuring, eliminating old behavior, reinforcing old behavior) (pp. 11-12). Similarly, Kelly (1980) proposes four aims of dissemination: adoptive, adaptive, innovative, and instrumental (pp. 68-9).

Romberg and Price (1982) present these same ideas about the degree of restructuring involved in curriculum changes as a continuum with one extreme labeled **ameliorative innovations** (i.e., designed to make some ongoing practice better or more efficient without challenging values and traditions) and the other extreme labeled **radical innovations** (i.e., designed to challenge the cultural traditions of schools) (p.159). The first are most commonly found, easily implemented and, in general, of little concern. The latter results in two responses: 1) Nominal change, which is most prevalent, occurs when only the labels have been adopted and 2) Actual change which may produce technical change (procedures of the program are adopted but with little understanding of values or principles), constructive change (program is adopted with full understanding), and illusory change (procedures are adopted but with no conviction that they will work) (pp. 167-9).

FAILURE OF CURRICULUM REFORM

Prevalent in the literature is an overwhelming agreement that the so-called decade of reform (1957-1967) failed miserably as have many more recent attempts at educational change (Unruh & Unruh, 1984; Loucks & Lieberman, 1983; Marsh, 1983; Fullan, 1982; Kelly, 1980; Gross, 1979; Reid & Walker, 1975). In the oft-quoted words of Goodlad and Klein (1974), the curriculum reform efforts "were blunted on school and classroom doors" (p. 97). Hanvey (1971) describes the mission of the curriculum reform projects as one of devising a new diet:

> In effect they said, if you will use the new diet as directed you'll feel much better. The schools, of course, didn't use it as directed. They poured it into their ears, smeared it on their bodies, and burned it as incense--and felt marvelously improved. That was the first jolt--the continual reporting of success when every observation showed no success. (p. 148)

Why have these efforts failed? Although explanations have been sought, "findings from research in implementation are inconclusive and contradictory. It is not yet known what should be done to successfully implement new curricula in different settings, under different conditions. Philosophical debates rage" (Loucks & Lieberman, 1983). But some areas of agreement exist.

Many blame a lack of understanding concerning the role of the teacher in implementation. For example, should the teacher help develop materials, help plan implementation, implement as directed (i.e., teacher-proof materials), or adapt to fit needs (Lazerson et al., 1984; Loucks & Lieberman, 1983; Klein, 1983; Fullan, 1982; Olson, 1982; Gross, 1979; Tom, 1973; Herron, 1971)?

Others focus on the constraints of the organizational setting and the unchanging nature of the culture of schools (Virgilio & Virgilio, 1984; Leary, 1983; Loucks & Lieberman, 1983; Romberg & Price, 1982; Gross, 1979; McKinney & Westbury, 1975; Goodlad & Klein, 1974; Hanvey, 1971). Concerns identified here pertain to the physical facilities, financial and material resources, administrative support, role relationships, role overload, staff resistance, and organizational need for stability and maintenance.

A third factor involves the nature of the innovation. Issues include clarity about the nature and scope of the innovation, compatibility with overall curriculum, quality of innovation, who developed it, content, complexity, and different perspectives about the innovation and the need for change (Lazerson et al., 1984; Unruh & Unruh, 1984; Leary, 1983; Klein, 1983; Gross, 1979; Herron, 1971).

A lack of understanding about and neglect of the processes of change and implementation contribute to failure. This includes overall inadequate planning and a lack of monitoring and feedback procedures which assist in early detection of impediments to implementation (Leary, 1983; Gross, 1979; Patterson & Czajkowski, 1979; Berman & McLaughlin, 1975).

Finally, some question the quality and appropriateness of the research methodology used in the various studies, arguing that the failure may not be as miserable as perceived. In some cases, researchers may have been evaluating "non-events." In this situation, intended differences between experimental and control groups may in fact not exist. For example, members of the experimental group may not implement the innovation (e.g., team teaching, individualization) while members of the control group, unknown to the researcher, may be using it on their own (Charters & Jones, 1973, p. 5; Hall & Loucks, 1977, p. 264). Frequently, evaluation occurs during the first year or first cycle of use, long before individuals have learned to use the innovation effectively. Another evaluation after three cycles could demonstrate significant differences (Hall, Loucks, Rutherford & Newlove, 1975, p. 56). In addition, criteria for evaluating success are often not clear or are subjective (Dickinson, 1975).

While the above does not represent a comprehensive listing of all factors that have contributed to the failure of curriculum change efforts, it does present an overview of current thinking in this area. Much need exists, however, for further research and clarification.

OVERVIEW OF FOUR MODELS OF CURRICULUM IMPLEMENTATION AND EDUCATIONAL CHANGE

Fullan and Pomfret (1977) suggest that in the past, implementation was viewed as a "... 'black box' where innovations entering one side somehow produce the consequences emanating from the other" (p. 337). Various researchers have attempted to shed light on this process by describing what occurs within the black box.

Based upon an analysis of over 25 descriptive theories of the process of organizational change, Neale, Bailey and Ross (1981) conclude that all models depict stages of change and that these stages are significant for anyone trying to promote change. While terminology differs, they suggest that almost all the theorists recognize three broad stages of planned change: initiation, implementation and integration (see Figure 2). These stages, as well as other components, are evident in the four illustrative examples selected and summarized in the following sections.

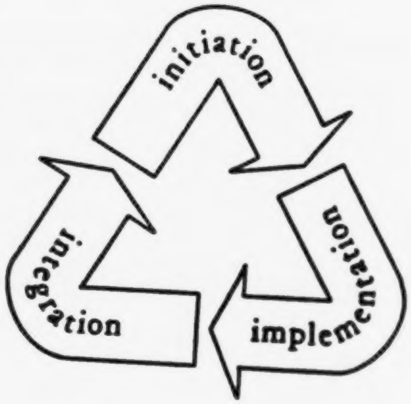


Figure 2

STAGES OF PLANNED CHANGE
(Neale et al., 1981, p. 100)

Rand Change Agent Study

Berman and McLaughlin (1976) investigated the process of innovation and factors affecting innovation through a nationwide survey of 293 federally funded change agent projects, intensive field studies of 29 of these projects, and interviews with federal and state officials working on the projects. A common purpose of all the change agent programs was "the stimulation and spread of educational innovations" (p. 346). They developed three measures of the effectiveness of the project's implementation: perceived success, change in behavior, and fidelity of implementation (p. 350). In addition, "expected continuation" after the withdrawal of federal monies was treated as an outcome.

To guide their research, they developed a model of the innovative process consisting of three stages. The first, **initiation**, "occurs when local school officials conceive and formulate plans, seek resources, and make decisions about which project they should select and support" (p. 349). They identified four factors which serve as a catalyst for this stage: "the presence of a 'good' idea, the availability of federal funds, local needs, and the incentives of individual actors" (p. 351). Based upon the interaction among these factors, they identified two types of initiation processes: 1) opportunism, characterized as a response to federal funds with a lack of interest and commitment and 2) problem-solving, characterized as a response to locally identified needs with a strong commitment to addressing the needs (pp. 351-2).

The second and most crucial stage, **implementation**, occurs when "the project confronts the reality of its institutional setting and project plans must be translated into practice" (p. 349). Since implementation, as an organizational process, involved interaction between the program and its setting, it was "neither automatic nor certain" (p. 352). They observed three different types of implementation processes related to the extent of adaptation: 1) mutual adaptation which involves the adaptation of both the project design and the institutional setting, 2) nonimplementation which involves no adaptation on the part of either the project or setting, and 3) cooptation which involves project adaptation "to the indifference and resistance to change on the part of participants but no change by participants themselves" (p. 352). Mutual adaptation coupled with a problem-solving initiation resulted in the increased likelihood of changes in teachers and organizational practices. The extent of mutual adaptation was directly related to the substance and scope of the change (i.e., the more highly complex and unspecific a project was, the more it was adapted) (p. 353). Not only did projects change over time within a site but the same project also exhibited considerable variation among sites (p. 349).

Incorporation, the final stage in innovation, occurs when "an innovative practice loses its 'special project' status and becomes part of the routinized behavior of the local education agency (LEA) (p. 350). It is a process that results in "continuation." Berman and McLaughlin found that it has two aspects. First, at the classroom level, teachers and principals assimilated parts of the programs with or without official continuation. Second, at the school district level, incorporation translated as financial, organizational, and political support (p. 354). The findings also suggest that projects were more likely to continue if they replaced existing classroom practices rather than supplemented the existing curriculum and if they occurred under the following conditions: "an emphasis on training rather than on the introduction of new technology, training focused on practical classroom issues rather than on theoretical concepts, and local development of materials rather than reliance on outside consultants" (p. 354). They do not identify "outcomes" or "consequences" as one of the stages; however, the previously discussed "measures of effectiveness" indicates that they do not consider "incorporation" the end of the process.

Initiation → Implementation → Incorporation

In addition to this model, Berman and McLaughlin identify three major factors which can affect implementation and continuation. These include *project characteristics* (i.e., educational treatment or technology; resource level; scope of proposed change; implementation strategy), *institutional setting* (i.e., organizational climate and motivations of administration and staff; characteristics of school, district, and principal actors), and *federal policies* (i.e., federal change agent program objectives and management strategies (pp. 355-6).

Finally, Berman and McLaughlin suggest four premises upon which change agent policy could be based:

1. Implementation--rather than the adoption of a technology, the availability of information about it, or the level of funds committed to it--dominates the innovative process and its outcomes.
2. Effective implementation depends on the receptivity of the institutional setting to change.
3. Effective implementation is characterized by the process of mutual adaptation.
4. Local school systems vary in their capacity to deal with innovations and with the stages of innovative process. (p. 365)

Fullan's Model of Educational Change

Fullan and Pomfret (1977) analyzed 15 research studies on curriculum and instruction implementation. Twelve of the studies examined the extent to which the innovation in practice corresponded to the original intent (i.e., fidelity or mutual adaptation) and three studies investigated the process of implementation. While Fullan and Pomfret do not propose a theory of implementation from their analysis, they provide conceptualizations as a future foundation. First, they identify five dimensions of implementation in practice: "changes in (a) subject matter or materials, (b) organizational structure, (c) role/behavior, (d) knowledge and understanding, and (e) value internalization" (p. 361). Then they identify the following determinants of implementation:

A. Characteristics of the Innovation
   1. Explicitness (what, who, when, how)
   2. Complexity

B. Strategies
   1. In-service training
   2. Resource support (time and materials)
   3. Feedback mechanisms
   4. Participation

C. Characteristics of the Adopting Unit
   1. Adoption process
   2. Organizational climate
   3. Environmental support
   4. Demographic factors

D. Characteristics of Macro Sociopolitical Units
   1. Design questions
   2. Incentive system
   3. Evaluation
   4. Political complexity (pp. 367-8)

In 1982, based upon this and other work, Fullan published a comprehensive description and analysis of the educational change process in a book entitled The Meaning of Educational Change. As with Neale et al., he suggests that most researchers see three broad phases in the change process; however, he adds a fourth to complete the picture:

> Phase I--variously labeled initiation, mobilization, or adoption--consists of the process which leads up to and includes a decision to adopt or proceed with a change. Phase II--implementation or initial use (usually the first two to three years of use)--involves the first experiences of attempting to put an idea or program into practice. Phase III--called continuation, incorporation, routinization, or institutionalization--refers to whether the change gets built in as an ongoing part of the system

> or disappears by way of a decision to discard or through attrition....Outcome...can be thought of generally as the degree of school improvement in relation to given criteria. (pp. 39-40)

Initiation ↔ Implementation ↔ Continuation ↔ Outcome

In a discussion of the initiation phase, Fullan identifies 10 factors which affect decisions to adopt a given change:

1. Existence and quality of innovations
2. Access to information
3. Advocacy from central administration
4. Teacher pressure/support
5. Consultants and change agents
6. Community pressure/support/apathy/opposition
7. Availability of federal or other funds
8. New central legislation or policy
9. Problem-solving incentives for adoption
10. Bureaucratic incentives for adoption (p. 42)

For implementation, Fullan discusses 15 interrelated factors (grouped into four categories) which affect change in practice:

A. **Characteristics of the Change**
1. Need and relevance of the change
2. Clarity
3. Complexity
4. Quality and practicality of program (materials, etc.)

B. **Characteristics at the School District Level**
5. The history of innovative attempts
6. The adoption process
7. Central administrative support and involvement
8. Staff development (in-service) and participation
9. Time-line and information system (evaluation)
10. Board and community characteristics

C. **Characteristics at the School level**
11. The principal
12. Teacher-teacher relations
13. Teacher characteristics and orientation

D. **Characteristics External to the Local System**
14. Role of government
15. External assistance (p. 56)

Fullan discusses in a more general way factors affecting continuation. He agrees with Berman and McLaughlin that reasons for not continuing a program are similar to those for implementation but their role is more defined (e.g., lack of interest; lack of funding; lack of staff development; lack of central office support; lack of support by principal) (p.76).

He draws upon the Study of Dissemination Efforts Supporting School Improvement (DESSI) to indicate the variety of possible short and long-term outcomes of change efforts. These include:

1. Degree of implementation
2. Attitude toward innovation
3. Impact (a) students' benefits
    (b) teachers' benefits
    (c) organizational benefits
4. Continuation or institutionalization
5. Attitude toward school improvement (p. 77)

He concludes by stating that the "most discouraging prospect in understanding the implementation and continuation process is the realization that it is not linear and is never-ending" (p. 77).

Rogers' Model of Innovation Diffusion

The diffusion model presented by Rogers (1983) differs significantly from those previously discussed in one major way. He argues that past diffusion investigations have focused only on the diffusion process, ignoring many relevant activities and decisions which precede this stage and, in turn, shape it. He offers instead a discussion of the **innovation-development process** (see Figure 3) which "consists of all of the decisions, activities, and their impacts that occur from recognition of a need or problem, through research, development, and commercialization of an innovation, through diffusion and adoption of the innovation by users, to its consequences" (p. 135):

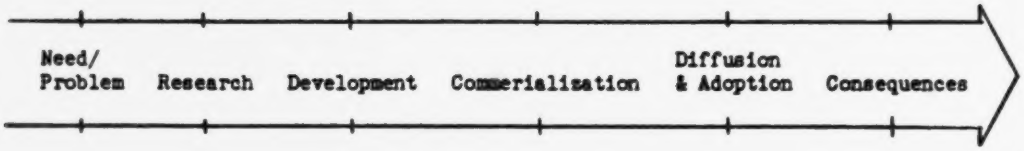


Figure 3

ROGERS' MODEL OF INNOVATION DIFFUSION:
SIX MAIN PHASES OF INNOVATION-DEVELOPMENT PROCESS

While this model places "diffusion" within a broader, more meaningful context, Rogers emphasizes that these six phases may not occur in this exact order and that certain steps may even be skipped. The main point is that prediffusion activities impact significantly upon diffusion and, therefore, must be included in any analysis of diffusion or implementation.

Rogers recognizes, however, that "diffusion and adoption" are the heart of the overall process. His whole discussion of this part of the process evolves as an elaboration of his definition of diffusion which is "the process by which (1) an **innovation** (2) is communicated through certain **channels** (3) over **time** (4) among the members of a **social system**" (p. 10). It is a special type of communication which leads to the spread of messages which are new, allowing for their adoption by potential users. A discussion of relevant aspects of each of these elements follows.

An innovation, as discussed previously, is "an idea, practice, or object that is perceived as new by an individual or other adopting unit" (p. 11). The innovation need not be "new" relative to time of development or first use but new to a specific adopter. Five characteristics of an innovation greatly influence its rate of adoption:

1. Relative advantage (how much better than previous idea)
2. Compatibility (how consistent with existing values, past experiences, and needs)
3. Complexity (how difficult to understand and use)
4. Trialability (how much can experiment with)
5. Observability (how visible results are to others) (pp. 15-16)

Re-invention, another major concept under innovation, is "the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation" (p. 16). This definition lacks the two-directional change inherent in Berman and McLaughlin's "mutual adaptation."

Second, Communication channel is the means by which messages about an innovation are sent from 1) an individual or other unit of adoption having knowledge and/or experience with an innovation to 2) another individual or unit lacking knowledge and/or experience. This may include, for example, mass media or interpersonal channels. The degree of effectiveness of the communication often depends upon how similar the two groups are in certain attributes (e.g., beliefs, education, social status, occupation) (pp.17-18).

Time, an important but often neglected element in the diffusion process, is involved in the process in three ways: 1) in the innovation-decision process, 2) in the innovativeness of an individual,

3) in an innovation's rate of adoption. First, the innovation-decision process is "the process through which an individual (or other decision-making unit) passes from first knowledge of an innovation to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of the decision" (p. 20). It involves five main steps which occur over time and usually in the following order:

a) Knowledge (individual exposed to innovation and gains some understanding)
b) Persuasion (individual forms a favorable or unfavorable attitude)
c) Decision (individual chooses to adopt or reject)
d) Implementation (individual puts an innovation into use)
e) Confirmation (individual seeks reinforcement of innovation decision already made)

Innovativeness, the second factor of time, is the "degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a system" (p. 22). Five categories of adopters include a) innovators, b) early adopters, c) early majority, d) late majority, and e) laggards.

Finally, rate of adoption is the "relative speed with which an innovation is adopted by members of a social system" (p. 23). If the cumulative number of adopters is plotted over time, an s-shaped curve will result--the distribution rises slowly at first, accelerates as a greater number of people adopt, then tapers off. A steep slope indicates a rapid rate of adoption and a gradual slope a slower rate. In addition, adoption of a innovation is the result of human interaction through personal networks. If one adopter shares the new innovation with two others who in turn each share it with two others, contagious adoption results.

The fourth and final element in the diffusion process, social system, is defined by Rogers as "a set of interrelated units that are engaged in joint problem solving to accomplish a common goal" (p. 24). It delineates the boundaries within which innovations can be diffused. Five main factors are involved:

a) Structure (patterned arrangements of the units which provide stability and regularity to individual behavior)

b) Norms (established behavior patterns)

c) Opinion Leaders (influence others informally) and Change Agents (influence formally in direction desired by change agency)

d) Innovation-decisions (individual or unit decides to adopt or reject)
  --Optional innovation-decisions (made by individual independent of others)
  --Collective innovation-decisions (made by consensus and usually all expected to conform to decision)
  --Authority innovation-decisions (made by a few who hold power, status, or technical expertise)
  --Contingent innovation-decisions (choice to adopt or reject can only be made after a prior innovation-decision)

e) Consequences (changes that occur to individual or unit as a result of adoption or rejection)
  --Desirable versus undesirable
  --Direct versus indirect
  --anticipated versus unanticipated (pp. 24-32)

Rogers' overall model mostly describes diffusion and adoption of innovations by individuals as well as organizations. In Chapter 10, he specifically addresses innovations in organizations, presenting "stages" similar to those discussed in the previous models.

Concerns-Based Adoption Model

The Concerns-Based Adoption Model (CBAM) was originally developed by Hall, Wallace and Dossett in 1973 at the Research and Development Center at the University of Texas at Austin. Influenced by Frances

Fuller's work on the concerns of preservice teachers and by implementation studies, CBAM looks at educational change from a different perspective than the previously discussed models. It is based upon the following assumptions about innovation adoption:

1. In educational institutions change is a **process**, not an event.
2. The **individual** must be the primary target of interventions designed to facilitate change in the classroom.
3. Change is a highly **personal** experience.
4. The change process is not an undifferentiated continuum.
5. Staff development can best be facilitated for the individual by use of a **client-centered diagnostic/prescriptive model.**
6. The staff developers or other change facilitators need to work in an adaptive, yet systemic way. (Hall & Loucks, 1978, 37-39).

Based upon these assumptions, "three aspects of change form the basic frame of reference of the model: the concern that users express about the innovation, how the innovation is actually used, and the ways in which the innovation can be adapted to the needs and styles of particular individuals" (Hall & Loucks, 1978, p. 39). The first of these, concerns, deals with the feelings, motivations, perceptions and attitudes that a person experiences in relation to an innovation (Hall, 1979, p. 203). In order to assess the concerns of users, Hall and others developed seven Stages of Concern about the Innovation (SoC). While users progress through the stages, they usually have concerns on more than one level at a time. These stages which build upon each other are summarized below:

Stages of Concern about the Innovation

6. Refocusing: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative.

5. Collaboration: The focus is on coordination and cooperation with others regarding use of the innovation.

4. Consequences: Attention focuses on impact of the innovation on student in his/her immediate sphere of influence.

3. Management: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources.

2. Personal: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation.

1. Informational: A general awareness of the innovation and interest in learning more detail about it is indicated.

0. Awareness: Little concern about or involvement with the innovation is indicated. (Hall & Loucks, 1978, p. 41)

Second, implementation of innovations is not simply a bipolar decision of use versus non-use but also entails a question of degree of use. To help account for variations in use of the same innovation, CBAM researchers identified eight Levels of Use of the Innovation (LoU). LoU describe behaviors of the users rather than affective concerns. Movement from lower levels to higher levels is a developmental process with few achieving a level higher than IV B (Hall, Loucks, Rutherford & Newlove, 1975; Hall & Loucks, 1977). The following outlines LoU, the second component of CBAM.

Levels of Use of an Innovation

Level 0. Non-use: State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.

> Level I. Orientation: State in which the user has acquired or is acquiring information about the innovation and/or has explored or is exploring its value orientation and its demands upon the user and the user system.
>
> Level II. Preparation: State in which the user is preparing for first use of the innovation.
>
> Level III. Mechanical Use: State in which the user focuses on the short-term, day-to-day use of the innovation with little time for reflection.
>
> Level IV A. Routine: Use of the innovation is stabilized.
>
> Level IV B. Refinement: State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence.
>
> Level V. Integration: State in which the user is combining [his/her] own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.
>
> Level VI. Renewal: State in which the user re-evaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and system. (Hall et al., 1975, p. 54)

Lastly, with knowledge of individuals' SoC and LoU, change facilitators (e.g., staff developers, chairpersons, administrators, curriculum specialists) can better assist teachers in developing more effective innovation use. Interventions (e.g., inservice education, providing feedback, practice) can be targeted to specific persons or groups. In addition, since change is a process which occurs over time, intervention would also occur over time and in differing forms to meet different needs. The one-time, one-shot workshop designed to prepare teachers to use a new innovation would be replaced by an ongoing, individualized program tied to individuals SoC and LoU (Hall et al., 1975; Hall, 1979).

Loucks and Zigarmi (1980) suggest that four general phases describe the change process: orientation and preparation; implementation; maintenance; and refinement. For each of these, they identify typical SoC and LoU.

	Orientation & Preparation	Implementation	Maintenance	Refinement
LoU:	Orientation Preparation	Mechanical	Routine	Refinement Integration Renewal
SoC:	Informational Personal	Management	None	Consequences Collaboration Refocusing

Summary

Each of these models contributes to the understanding of curriculum implementation and change. In some ways they present a very similar view of change as a complex process not easily described by a model or theory. In other ways they differ. Rogers provides a very holistic view. Almost all elements of the other models fall under just one of his phases--diffusion and adoption. CBAM presents the most narrow focus--concerns of users and how they use innovations. But it provides a depth in this area which is lacking in the other models. Figure 4 visually compares the scope of the models.

The following section discusses six major points from each of these models, as well as from other research, which are particularly relevant to the implementation process of Project WILD: role of the classroom teacher, nature of the innovation, gap between "ideal" and "reality," characteristics of the adopting unit, strategies and methods, and external factors.

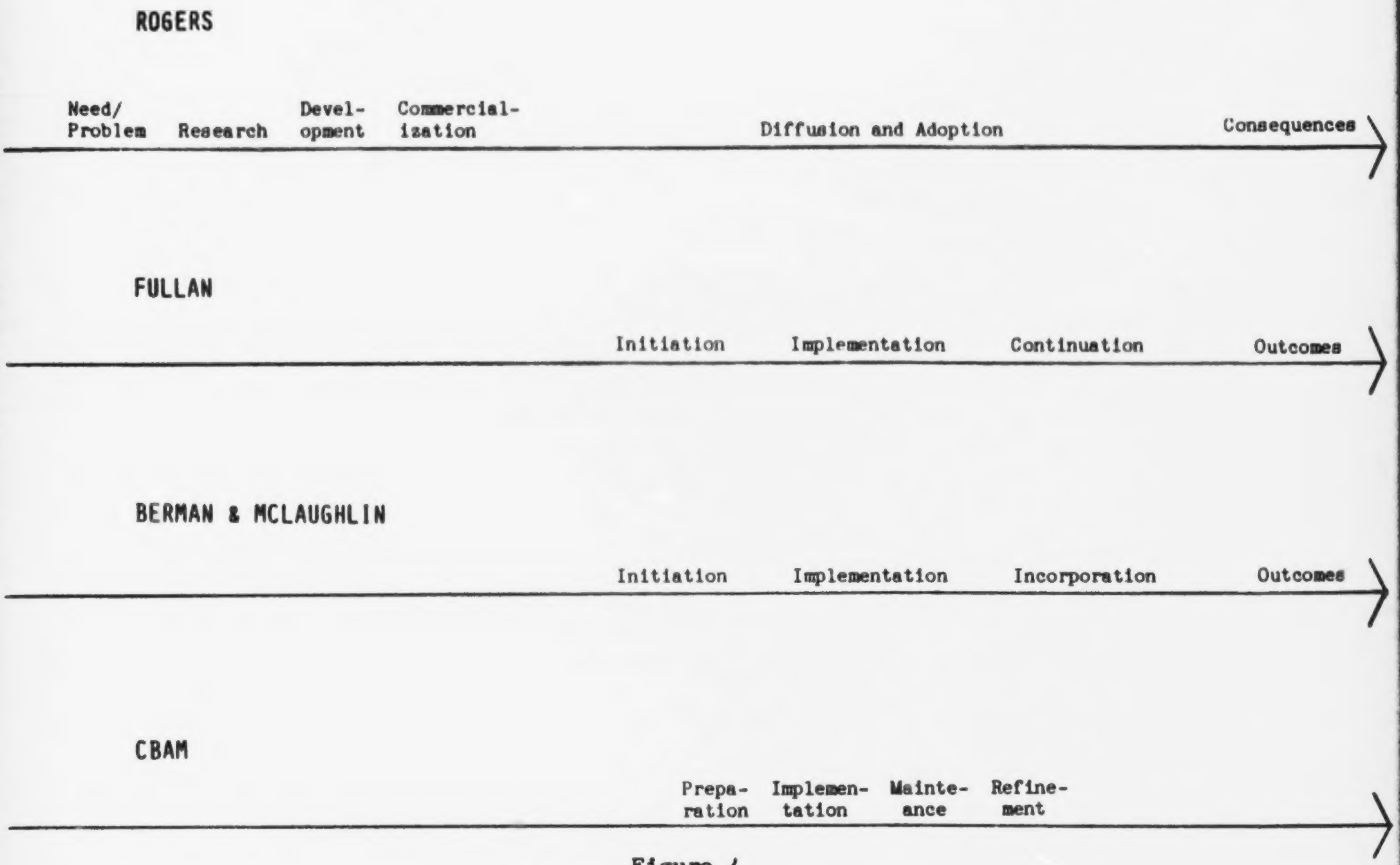

ROGERS
Need/ Problem
Research
Devel- opment
Commercial- ization
Diffusion and Adoption
Consequences
FULLAN
Initiation
Implementation
Continuation
Outcomes
BERMAN & MCLAUGHLIN
Initiation
Implementation
Incorporation
Outcomes
CBAM
Prepa- ration
Implemen- tation
Mainte- ance
Refine- ment

Figure 4

COMPARISON OF FOUR MODELS OF EDUCATIONAL CHANGE

KEY POINTS DERIVED FROM MODELS AND RESEARCH

The significance of the **role of the classroom teacher** emerges as one of the clearest messages in the educational change literature. If the goal is effective curriculum implementation, then teachers cannot be bypassed nor can they be manipulated by teacher-proof packages working as remote controls for their behavior. Success lies in the recognition of teachers as the key factor, as the bottom line (Crandall, 1983; Klein, 1983; Romberg & Price, 1982; Finch, 1981; Sinclair & Ghory, 1979; McLaughlin & Marsh, 1978; Schiffer, 1978; Hall & Loucks, 1977; Olson, 1977; Hamilton, 1975; Sarason, 1971). Fullan (1982) uses an anonymous quote to point out an irony: "If a new program works teachers get little of the credit; if it fails they get most of the blame" (p. 107).

Bussis, Chittenden & Amarel (1976) emphasize the importance of the teacher over teaching materials.

> The most significant educational variation exists at the level of the individual practitioner--not at the level of instructional materials, packaged programs, or the like....Their value in the long run is determined by the teacher's interpretation and use of them. (p. 1)
>
> The task of encouraging and guiding children's learning entails key decisions as to whether, when, how, and for what purpose to intervene in a child's activity. These decisions cannot be made by a textbook or teaching manual... (p. 25)

While Shipman (1974) also recognizes this, he found teachers in a dilemma that complicated change efforts. Teachers demanded on one hand packaged materials that relieved them from decision-making and strategies; yet, on the other hand they complained when told what to do. They wanted the freedom to make their own decisions (p. 12).

In addition to recognizing the importance of the teacher in interpreting and implementing new curriculum, many believe that teachers should help in developing it (Klein, 1983; Sinclair & Ghory, 1979; Mullen, 1975; Herron, 1971). Kelly (1980) argues that local development of materials is economically inefficient and that it suffers in quality as a result of isolation. He suggests "area" development as the preferred level (p. 77). The Rand study found that local development of materials (i.e., reinventing the wheel) was important in order to understand projects better and for a sense of ownership (Berman & McLaughlin, 1976, p. 361). Fullan (1982), however, believes that a great mistake was made in "the naive assumption that involving **some** teachers on curriculum development committees or in program development would facilitate implementation, because it would increase acceptance by **other** teachers" (p. 113). He argues that a more important factor is personal contact--teachers interacting with teachers and with others who can provide technical help (p. 121).

A second common factor discussed is the **nature of the innovation.** Complexity and scope of change appear to be the most significant characteristics which affect implementation. In general, programs which are less complex to use and understand will be implemented more quickly than those that require the adopter to develop new skills and understandings (Rogers, 1983, p.15). The more difficult the change, the greater the variation in use among different sites (Fullan and Pomfret, 1977, p. 371). Sarason (1971) argues for a gradual approach to change because schools respond differentially to the same innovation and change implementers do not have time to oversee this variation in degree of change (pp. 213-4). Berman and McLaughlin (1976) found that the scope of change was one of three main factors affecting innovations (p. 364). While they agree that broad, complex changes pose great problems for implementation, narrow treatments showed little evidence of broad-based or enduring change. "This suggests that innovations involving a comprehensive area of curriculum or requiring an overall change in teacher behavior are more likely to induce change, other things being equal" (p. 358). Fullan (1982) cites additional research which indicates that "simple changes are easier to carry out, but they may not make much of a difference" (p. 59). Huberman and Miles (1984) found that if ambitiousness was maintained, organizational change was more likely (p. 280).

Agreement exists about other characteristics of innovations. Degree of clarity (about goals and means) is related to degree of implementation (Fullan, 1982; Hall and Loucks, 1981; Fullan and Pomfret, 1976). Potential users must perceive innovations as meeting perceived needs and having relative advantage over current practices if they are to consider their efforts worthwhile (Rogers, 1983; Fullan, 1982). Similarly, Berman and McLaughlin found that centrality, or how close the goals of the project were to major educational objectives of the district, was important to continuation (pp. 357-8). Compatibility (Rogers, 1982) and consonance (Berman & McLaughlin, 1976) both address the need for consistency between the values of the innovation and those of the users. Finally, Fullan (1982) cites numerous cases to suggest that the quality and practicality of innovations also impacts greatly upon implementation. Teachers want programs that are, among other things, tangible, relevant, complete, well-organized, comprehensive, detailed, "how-to" oriented, tested, and readily usable. Crandall (1983) found that the use of exemplary practices (an innovation that really works) is a cornerstone to successful change (p. 8).

In looking at criteria that teachers use in decision-making pertaining to implementation, Doyle and Ponder (1977-78) talk about "the practicality ethic." This involves three aspects that teachers consider: 1) congruence, or how the students will react to the change and how well the new practice fits in with the teachers philosophy of teaching; 2) instrumentality, or the extent to which a recommendation is stated clearly and specifically, and 3) cost, or how much effort is required to achieve what level of payoff (Doyle and Ponder, 1977-8).

In a similar way, Kelly (1980), concluded from research with Harding that teachers' decision to adopt an innovation is based primarily upon dissatisfaction with their current situation. In addition there are three matching processes in which they assess their perceptions of the needs of their students (relevance), their resources and organization (feasibility), and their educational philosophy and teaching style (acceptability) with their perception of the same aspects of an innovation (pp. 71-2).

Third, many writers emphasize that perceptions of characteristics of innovations and curriculum differ among individuals. Goodlad (1977) identifies five distinct curricula, each reflecting different perspectives: 1)ideal (what planners propose), 2) formal (what controlling agency prescribes), 3) perceived (what teachers and others think it is), 4) operational (what can be observed), and 5) experienced (what students relate to) (p. 5).

These differences, often tied to value systems, result in a gap between the "ideal" and "reality" (Lazerson et al., 1984; Marsh, 1983; Sabar, 1983; Olson, 1982; Pittman, 1981; Goodlad, 1977; MacDonald & Walker, 1976; Reid, 1975; Shipman, 1974; Herron, 1971).

Reid (1975) describes Dickinson's portrayal of this gap as "the way in which head teachers field the balls carelessly thrown to them by curriculum projects and then use them to play their own game" (p. 252). In studying the implementation of a science program into two different schools, Hamilton (1975) emphasizes that his research "begins with practice rather than precept. It regards the learning milieu as containing the substance of curriculum innovation, not, as is often implied, its pale or distorted shadow" (p. 181).

MacDonald and Walker (1976) explain the gap using the concept of "curriculum negotiation" which is based upon the following thesis and illustrated in Figure 5:

> The gap between project intent and classroom practice is not primarily a matter of miscommunication by the project or misuse by the teachers. Rather it is a consequence of a series of "trade-offs" that are negotiated at each successive point of sale. "What is implemented" is much closer to "what is sold" than is commonly realized. (p. 47)

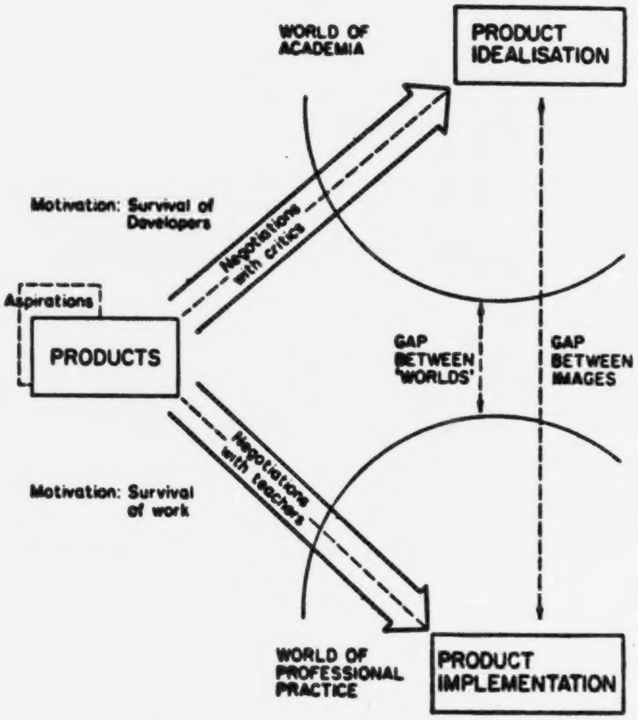

WORLD OF ACADEMIA
PRODUCT IDEALISATION
Motivation: Survival of Developers
Negotiations with critics
Aspirations
PRODUCTS
GAP BETWEEN 'WORLDS'
GAP BETWEEN IMAGES
Negotiations with teachers
Motivation: Survival of work
WORLD OF PROFESSIONAL PRACTICE
PRODUCT IMPLEMENTATION

Figure 5

CURRICULUM NEGOTIATION
(McDonald & Walker, 1976, p. 45)

Fullan suggests that "there is a dilemme and tension running through the educational change literature in which two different emphases or perspectives are evident" (p. 31). The first, or *fidelity* approach to change, involves faithfully implementing the innovation the way it is supposed to be used. The second, *mutual adaptation*, involves an evolution of the innovation resulting from changes and decisions by users interacting with the innovation, learners, and the setting. Aoki (1984) presents a similar distinction when he describes two modes of implementation action: *instrumental action* (technique) and *practical action* (praxis).

In recognizing this gap, this dilemma, most researchers support its creation (through modification of the innovation and the organization) in order to promote successful implementation (Kimpston, 1984; Rogers, 1983; Fullan, 1982; Hall & Loucks, 1981; Lane, 1980). Berman & McLaughlin (1976) point out that the adjustments may not lead to full achievement of the project's goals but they are more likely to result in changes in teacher and organizational practices (p. 353). Huberman and Miles (1984) found that "enforced fidelity for substantial, good-quality innovations really paid off--if it was accompanied by effective assistance" (p. 279).

Characteristics of the adopting unit is another topic emphasized. Among the characteristics, one of the most critical appears to be organizational process and climate (Unruh & Unruh, 1984; Hopkins, 1984; Fullan and Pomfret, 1977; Hamilton, 1975; Reid, 1975). McKinney & Westbury (1975) define maintenance and change as the two primary but hierarchically interdependent functions of organizations. They believe that an understanding of the interrelationship between these two functions is a prerequisite of planning for curriculum change (pp. 1, 45). Berman & McLaughlin (1976) found that "project outcomes depended more on the characteristics of the project's setting than on any other factor" (p. 361). Some of the organizational/setting factors which positively effect implementation include voluntary participation, supportive building principal, involvement of all participants, strong district administrative support, high morale, teacher commitment, and teacher efficacy or the belief that all students can be helped (Huberman & Miles, 1984; Virgilio & Virgilio, 1984; Crandall, 1983;

Fullan, 1982; Finch, 1981; Fullan & Pomfret, 1977; Mann, 1978; McLaughlin & Marsh, 1978; Berman & McLaughlin, 1976; Dickinson, 1975; Mullen, 1975; Sarason, 1971).

While the DESSI study lists teacher commitment as one of the central factors leading to successful implementation, the researchers found an alternative view of how this commitment evolves. Past views supported the idea that commitment results from early teacher involvement in problem-solving and decision-making or from local adaptation of innovations. DESSI found that commitment developed after implementation.

> We found that with clear, direct leadership from building and central office administrators, training by a credible person in the use of a practice that was known to be effective, and continued support and assistance, teachers tried the new practice, mastered it, saw results with their students, and developed a strong sense of ownership. And this with little or no early involvement in problem solving, selection, or decision making. (Crandall, 1983, p. 7)

While teacher age, educational level, and years of experience are not, in general, related to effective implementation, some evidence indicates that grade level taught is important. The change process appears to differ between elementary and secondary levels (Marsh, 1983). Specifically, elementary programs show more signs of success than higher level programs or combined programs for elementary and secondary (Mann, 1978; Fullan & Pomfret, 1977; Berman & McLaughlin, 1976) and elementary teachers tend toward less adaptation of the program (Kimpston, 1984).

The fifth area focuses on **strategies and methods** used to introduce and implement innovations. Inservice education and staff development were most often cited as important strategies (Unruh & Unruh, 1984;

Fullan, 1982; Hall & Loucks, 1978; McLaughlin & Marsh, 1978; Fullan & Pomfret, 1977; Berman & McLaughlin, 1976; Horn & Marsh, 1976; Mullen, 1975; Shipman, 1974). Quantity is not as important as quality. Everyone stresses the importance of intensive, on-going inservice (as opposed to one-time, pre-implementation training). Efforts should be matched to developmental levels of participants (Loucks & Lieberman, 1983).

The use of teachers as trainers of teachers or as advisors is supported (Loucks & Lieberman, 1983; Fullan, 1982; Horn & Marsh, 1976). The DESSI study found that teachers emulate one another, adapting and adopting successful practices of peers they regard as successful and effective. Consequently, the use of "articulate, charismatic practitioner-presenters" lends credibility to a program and increases the likelihood of implementation (Crandall, 1983, pp. 8-9).

Concrete and skill-oriented programs are effective but only on a short-term basis (McLaughlin & Marsh, 1978, p. 78). For long-term effects, other staff support activities are necessary including classroom assistance by resource personnel, use of outside consultants, project meetings, and teacher participation in project decisions (Unruh & Unruh, 1984; Loucks & Lieberman, 1983; Fullan, 1982; Hall & Loucks, 1978; McLaughlin & Marsh, 1978; Fullan & Pomfret, 1977). The absence of feedback mechanisms is a critical problem during implementation (Unruh & Unruh, 1984; Fullan and Pomfret 1977).

Resource support (i.e., time, materials, facilities; funding) also falls under implementation strategies. Lack of time and inadequate materials function as barriers to implementation (Huberman & Miles, 1984; Unruh & Unruh, 1984; Fullan & Pomfret, 1977; McKinney & Westbury, 1975). Loucks and Lieberman (1983) suggest that change requires more than just financial and material support. Other areas include human resources, time, peer support, and external programs and consultants (pp. 132-3).

Time refers to more than the fact that teachers need time during the day to complete tasks related to an innovation. "A further aspect of timing as a resource is that the time perspective for adequately implementing educational innovations is unrealistically short, presumably because the complexity of the process of implementation is insufficiently understood and/or the immediacy of the need for change is too great" (p. 374). Change as a process takes time, a fact typically ignored (Hall, 1975). In general, the time period from awareness to adoption is two to three times longer than the period from adoption to start-up, allowing little time for planning for implementation (Loucks & Lieberman, 1983; Rogers, 1983, p. 209; Fullan, 1982, p. 53). Sarason (1971) takes this a step further. Even if the change agents have adequately and realistically projected a timeline suitable for their setting, if that perspective still differs significantly from the perspective of the targets of the change, then "the seeds of conflict and disillusionment are already in the soil" (p. 219).

Finally, **external factors** such as government agencies and outside assistance also influence the implementation process. In the past, governments have been more concerned with adoption of policies and programs than with their implementation (Fullan & Pomfret, 1977). This creates problems between the external and internal agencies which impact on implementation (e.g., lack of role clarity, ambiguity about expectations, absence of regular interpersonal forums of communication, ambivalence between authority and support roles of external agencies, solutions which are worse than the original problems, differing priorities) (Fullan, 1982, p. 74; Fullan & Pomfret, 1977, p. 389-90). Berman and McLaughlin (1976) found that federal policies had little influence on project outcomes because they primarily affected only the initiation stage (p. 362). Fullan recognizes that governments are by far the major sources of external assistance to school systems, directly and indirectly providing funding and technical assistance (e.g., materials, consultancy, staff development). He stresses that "outside assistance or stimulation can influence implementation very greatly provided that it is integrated with the factors at the local level...." (p. 75).

A study conducted by the Education Commission of the States (ECS) found four conditions at the state level (outside of the state agency) that appear to be critical for successful implementation:

1. State pressure to change, reform, or improve education.
2. State respect for the traditional balance between state and local control.
3. Support from political leaders.
4. Discretionary money available to local districts and schools.

In addition the ECS study found five factors within the state department of education that were important:

1. Political support within the department.
2. A collegial relationship with local school people.
3. Adequate resources.
4. Structure and organization of the state department.
5. An effort to develop local capacity through technical assistance. (Anderson & Odden, 1986, pp. 580-1)

SUMMARY

Curriculum implementation and educational change are highly interrelated processes. Implementation as a process separate from adoption involves putting an educational practice into use. Past implementation and change efforts failed because of a lack of understanding concerning: the role of the teacher; constraints of the organizational setting and the unchanging nature of the culture of schools; the nature of the innovation; the processes of change and implementation; and the appropriateness of research methodology. Most models of curriculum implementation and educational change exhibit three major phases: initiation, implementation and integration; however, other factors affect implementation such as need, research, development and commercialization. This review of the literature points to six major issues which should be considered in efforts to achieve successful curriculum implementation and educational change: role of the classroom teacher; nature of the innovation; the gap between the "ideal" and "reality"; characteristics of the adopting agency; strategies and methods; and external factors.

Inservice Education and Staff Development

In the literature on educational change, inservice education and staff development emerge as the most important strategies for implementation of curricular innovations. Some key points emphasized include the need for intensive on-going programs, the value of teachers as trainers, and the importance of feedback. Inservice education is the primary implementation strategy used for Project WILD.

DEFINITIONS AND GOALS

Unlike curriculum implementation, defining "inservice education" poses major problems. The term evokes different denotations and connotations for different people. Some consider it a general term, encompassing professional development, staff development and continuing education. Others view it as a limiting term which "assumes a deficiency in the teacher and presupposes a set of appropriate ideas, skills, and methods that need developing" (Sergiovanni & Starratt, 1983, p. 327). These and other authors prefer to differentiate between inservice education and staff development. Staff development "suggests a different approach to improvement, one that considers the effects of the whole school (the staff) on the individual (the teacher) and the necessity for long-term growth possibilities (development)" (Lieberman, 1978, p. 1). Some use different terms to express similar concepts while others use similar terms to express different concepts.

For the Inservice Teacher Education (ISTE) project, Nicholson, Joyce, Parker and Waterman (1976) compared and contrasted different definitions. They explain why the term "inservice education" is not universally accepted:

> To some it has become repugnant because most of what is done in its name is so terribly boring; to others, who cherish the goal of full professional stature for teaching, the term lacks the proper dignity; to others still, "inservice" is either derogatory or meaningless or out of date. (p. 79)

They suggest that this discontent has resulted in the usage of a variety of terms, the choice of which depends upon individual perspective. They even provide three columns of words for a kind of mix-and-match approach which produces a number of different viable combinations (e.g., staff development, continuing professional growth, continuing teacher education, teacher improvement). They offer an intuitive definition: "Every teacher is also a career-long student. That portion of his education which follows in time his initial certification and employment is known as 'inservice teacher education'" (p. 79).

The National Society for the Study of Education has published two yearbooks on this topic. In 1957 Hass wrote, "Broadly conceived, inservice education includes all activities engaged in by the professional personnel during their service and designed to contribute to improvement on the job" (p. 13). Griffin (1983b), 26 years later, states, "staff development means any systematic attempt to alter the professional practices, beliefs, and understandings of school persons toward an articulated end" (p. 2).

Finally, Orlich (1984) proposes that inservice education "denotes programs that are based on identified needs, planned and designed for a specific group of individuals in the school district, have a specific set of learning objectives or activities, and are designed to extend, add, or improve job-oriented skills or knowledge" (p. 34). These sample definitions, which range from general to specific, reflect some of the issues surrounding inservice education/staff development (e.g., for whom it is provided, by whom, when it occurs and for how long, what it involves, why engage in it).

In this way, the task of inservice education is to provide strategies which assist school personnel in refining, altering, and/or developing knowledge, skills, methods and attitudes related to teaching, supervision and administration. The end purpose of inservice education is described as ameliorating identified problems, improving practice and performance, maintaining the talents of people at a high level over time, and improving education for children (Daresh, 1985; Griffin, 1983b; Berman & Friederwitzer, 1981; Hass, 1957).

Since "inservice education," "staff development" and other similar terms are used interchangeably in the literature, all the related literature was surveyed for content relevant to the inservice processes used for Project WILD. As previously indicated, Project WILD is designed primarily to assist individual teachers; therefore, literature emphasizing development of a staff as a whole or school improvement was selectively reviewed.

COMPONENTS OF INSERVICE EDUCATION

Other authors further define inservice education by identifying its components. Joyce, Howey and Yarger (1976) discuss four interrelated systems which comprise the structure of inservice teacher education (ISTE):

1) The governance system is "composed of the decision-making structures which legitimize activities and govern them" (p. 6). It involves three levels of governance: a) the authority to create and maintain an inservice unit or center, b) the authority to govern a center, and c) the governance of the individual teacher's relationship to a unit or center (p. 11).
2) The substantive system is "composed of the content and process of ISTE and deals with what is learned and how it is learned" (p. 6).
3) The delivery system is "made up of incentives, interfaces between trainees, trainers, and training, and staff. It deals with motivation, access, and relevance to the role of the individual professional" (p. 6).
4) The modal system "consists of the forms of ISTE, ranging from sabbaticals abroad to intensive onsite institutes. These modes are the envelopes in which ISTE is delivered" (p. 6). Five general modes (with the corresponding role of the teacher) are identified: a) job-embedded (employee of school),

> b) job-related (colleague of other teachers), c) credential-oriented (student of higher education), d) professional organization-related (member of a profession), e) self-directed (individual craftsperson) (p. 14).

In a similar way, Griffin (1983a) presents four important aspects of staff development. Context involves the interrelated and complex characteristics of the setting (e.g., physical properties, organizational properties, history of prior change, perceptions of school mission, funding capabilities). Assessment involves a careful examination of needs by insiders and/or outsiders and a judgment of whether or not identified needs can or should then become a task for staff development. Content, which includes knowledge, skills, and/or attitudes, may be introduced into school settings on a large scale (e.g., school, several schools, district) or small scale basis (e.g., one or two behaviors of one or two teachers). Finally, process refers to the way in which content is conveyed to participants. In addition, it involves decisions and actions pertaining to planning, implementation and evaluation (p. 416). Sparks (1983) presents parallel categories (i.e., goals and content, training process, context) but describes staff development as a "nested process" in which these factors are interrelated and occur within an organizational context (p. 65).

STATE OF THE ART

"Flawed but necessary" summarizes the image of inservice education depicted in the literature. For example, in 1967 Don Davies testified before a Congressional subcommittee, "In-service teacher training is the slum of American education--disadvantaged, poverty-stricken, neglected..." (Bush, 1971, p. 38). Almost ten years later, Joyce et al. (1976) describe ISTE as "a cornucopia of problems crying for alternative solutions" (p. 3). They continue by saying "that the majority of interviewees, position papers, and literature, although agreeing that the problems of ISTE are vast and acute, proclaimed the importance of ISTE to the improvement of education" (p. 5).

More recent descriptions show little improvement. Burrello and Orbaugh (1982) attribute "shifting needs, periods of 'benign neglect,' fads, and marginal resources" to inservice education's poor condition but end by saying that they believe that it is "an absolute necessity if schools are to develop their most important resource, their people" (p. 385). In a colorful essay, Sharma (1982) cries out against current inservice practices by comparing the artificial insemination ("servicing") of Grandpop's old Jersey heifer to the inservicing of teachers. "And in the end, like poor old Flossie, we didn't get to join in the act and we didn't have much fun. It just happened" (p. 403).

Why has so little progress been made? Part of the reason stems from philosophical and conceptual issues--the way in which leaders of inservice education view participants. For example, the predominant use of a deficit orientation rather than a developmental orientation (Jackson, 1971; McLaughlin & Berman, 1977; Burrello & Orbaugh, 1982; Howey & Vaughan, 1983) and Theory X rather than Theory Y (Wood & Thompson, 1980) creates problems.

Governmental and political issues--who makes what decisions and how--are also of concern. Lack of collaboration in planning and implementation, insufficient time, lack of support systems, inadequate funding, and limited administrative support represent a few of the problems discussed (Joyce, Howey & Yarger, 1976; Schiffer, 1978; Johnson, 1980; Wood & Thompson, 1980; Burrello & Orbaugh, 1982; Howey and Vaughan; 1983; Orlich, 1984).

The last general category of issues surrounding inservice education is content and process --what is taught and how. Among the problem areas discussed are poor organization and planning, unsystematic approaches, violation of principles of good teaching, irrelevant content and activities, lack of adequate needs assessment of and by participants, unrelated to teacher and student change, unclear and misdirected objectives, emphasis on acquisition rather than application of information and skills, lack of follow-up, and little application of adult learning theory (Joyce et al., 1976; Schiffer, 1978; Johnson, 1980; Wood & Thompson, 1980; Burrello & Orbaugh, 1982; Howey & Vaughan, 1983; Orlich, 1984). These three interrelated areas of concern provide some explanation for the negative attitudes towards inservice education.

RESEARCH ON INSERVICE EDUCATION

Writers are equally critical of the literature and research on inservice education. For example:

> The literature on inservice teacher education is as voluminous--and as haphazard--as the programs it describes...The majority of reports and articles are on the lowest level of generality....On the most rarified level are found the few works that attempt to deal with the subject of inservice education as a whole. (Nicholson et al., 1976, p. 4)

Griffin (1983a) states that there are "few conceptually sound and methodologically rigorous research studies related directly to staff development" (p. 415). He believes that this results from the complexity of the topic and to the methodological problems associated with its study. Based upon a recent review, Daresh (1986) also criticizes research:

> The current status of research in staff development and inservice education is that researchers seem to be merrily engaged in collecting a good deal of information of apparently limited benefit to the improvement of school practices, the ability of educators to be more successful in their roles, or the conditions of staff development and inservice education. (p. 9)

Confirming the previous discussion on terminology, Yarger and Galluzzo(1983) state, "It logically follows that if the language in the field is fuzzy, the research will be equally unclear" (p. 163).

While problems exist, Yarger and Galluzzo (1983) argue that research in this area represents a new phenomenon and, therefore, requires no apologies (p. 186). In fact, Griffin (1983b) suggests that some predictability is possible now based upon current efforts (p. 3).

REVIEWS OF RESEARCH

Existing reviews of this "voluminous" literature provide helpful syntheses of the field. As part of the comprehensive inservice teacher education project (ISTE), Nicholson et al. (1976) reviewed over 2000 books, periodicals, and unpublished papers since 1957 which addressed the "general substance, process, and organization of teacher education" in an effort to identify "data needs and major issues in inservice education" (pp. 1-2). Through this process, they identified less than a dozen reviews of the literature. After discussing the strengths and weaknesses of most of these, the authors state, "The only review of research found which may properly deserve the name is one conducted by Lawrence and others in 1974 for the Florida Department of Education" (p. 19).

Based upon the complete review, Nicholson et al. present two overall conclusions. The first, regarding the state of research, indicates that "the process of inservice teacher education has been neglected in the research literature in favor of the content of inservice teacher education." The second states that "traditional inservice teacher education programs have consisted almost entirely of information-gathering activities: attending workshops, taking college courses and institutes, reading professional journals...Programs that stress utilization of that information or practice of techniques with feedback have been distinctly in the minority" (p. 20).

Lawrence et al. (1974) reviewed and analyzed 97 (of an initial 800) research studies of college-based and school-based programs designed to improve the professional competencies of employed teachers. Each study was classified into 14 categories. The first six had subcategories with multiple listings possible (i.e., situational design, objectives for teacher change, measurement level, research/evaluation plan, mediation, influence agent). The next seven dealt with management approaches and were presented as dichotomies with the studies classified as one or the other (i.e., individualized versus common activities; self-directed versus other-directed activities; active versus receptive teacher role; emerging versus preplanned design; application design versus expository design; teacher mutual assistance versus separate individual work; programmatic versus single-shot design). The last involved the reviewer's judgment whether the study involved complex, abstract objectives or clear-cut, well defined, concrete objectives (pp. 3-6).

The analysis clearly showed that "differences in materials, procedures, and design are associated with differences in effectiveness of inservice education" (p. 8). Among the 20 major findings of this review, the following relate to this study:

1. Most inservice education occurs in the school setting. The workshop is by far the most common format used. School-based inservice programs concerned with complex teacher behaviors tend to have greater success in accomplishing their objectives than do college-based programs dealing with complex behaviors (p. 8).
2. Teacher attitudes are more likely to be influenced in school-based inservice programs (p. 9).
3. School-based programs in which teachers participate as helpers to each other and planners of inservice activities tend to have greater success in accomplishing their objectives than do programs which are conducted by college or other outside personnel without the assistance of teachers (p. 11).
4. Objectives of inservice education that deal with changing teacher's concepts or enlarging the teacher's store of information have a high rate of realization; objectives dealing with overt teaching behaviors are less often realized; and objectives involving changes in teacher attitudes and values are least often realized (p. 13).
5. The success rate of inservice education programs is substantially higher when change in teaching behavior is the criterion rather than when subsequent change in pupil behavior is the criterion (p. 13).
6. Inservice education programs that have differentiated training experiences for different teachers (that is, "individualized") are more likely to accomplish their objectives than are programs that have common activities for all participants (p. 14).
7. Inservice education programs that place the teacher in active role (constructing and generating materials, ideas and behaviors) are more likely to accomplish their objectives than are programs that place the teacher in a receptive role (accepting ideas and behavior prescriptions not of his or her own making) (p. 14).
8. Inservice education programs that emphasize demonstration, supervised trials and feedback are more likely to accomplish their goals than are programs in which the teacher is expected to store up ideas and behavior prescriptions for a future time (p. 14).
9. Inservice education programs in which teachers share and provide mutual assistance to each other are more likely to accomplish their objectives than are programs in which each teacher does separate work (p. 15).

10. Teachers are more likely to benefit from inservice education activities that are linked to a general effort of the school than they are from "single-shot" programs that are not part of a general staff development plan (p. 15).
11. Teachers are more likely to benefit from inservice programs in which they can choose goals and activities for themselves, as contrasted with programs in which the goals and activities are preplanned (p. 15).
12. Self-initiated and self-directed training activities are seldom used in inservice education programs, but this pattern is associated with successful accomplishment of program goals (p. 15).

In general, this review indicates that successful, effective inservice education is school-based; uses teachers as helpers and planners; focuses on change in knowledge and change in teacher behavior; has differentiated experiences; actively involves the teacher; uses demonstration, practice and feedback; provides opportunity for teachers to share and support each other; addresses a general school effort rather than a one-time program; provides individual choices and is self-directed.

In 1980, Lawrence and Harrison updated this earlier review. Through meta-analysis, they compared gains and changes in effects of programs reported in 59 out of 6000 identified quantitative studies which appeared through 1979 and met the necessary topical and statistical criteria. The review addressed four questions. "When the purpose of professional education programs is cognitive change in the participants, what contexts, materials, and procedures have been found to be more effective for that purpose? The other three questions deal similarly with affective, performance, and consequence changes" (Lawrence, 1981, p. 4).

As a result of this meta-analysis, Lawrence and Harrison present 11 general findings:

> The inservice programs most successful in accomplishing their objectives were ones that:
> --involved teachers actively in initiating, planning and conducting the program;
> --were designed as a collective effort of a faculty, with common purposes directed toward general faculty development rather than focusing on the separate goals and needs of individual faculty members;
> --were funded in ways that permitted the teachers and administrators of individual schools to sponsor them, to design activities, and to select inside and outside leadership as appropriate to the plans (Programs led by school supervisors, teachers and college personnel met their objectives better than those led by state department of education personnel, school district staff, or other outside consultants.);
> --were scheduled at times (evening, summers) that did not compete with but complemented other professional obligations of the participants (Programs scheduled during work hours were considerably less successful in achieving objectives.);
> --had diverse program patterns that seemed to emphasize teacher responsibility--self-instruction, peer study groups, college courses, one-to-one consultation (The formats loosely labeled as workshop and staff meeting were considerably less successful in achieving objectives.);
> --involved participants in both receptive and active roles--receiving new ideas and putting them into action--rather than one type without the other;
> --had sequences in which participants could try out new things in their classrooms (or in simulations) and then receive appropriate feedback from a skilled person (Programs in which participants were expected to store up new ideas and behavior prescriptions for a future time were distinctly less successful in achieving objectives.);
> --had leaders who were linkers with a university or other center concerned with professional development;
> --had opportunities for participants to see demonstrations of exemplary practices, and to learn the skills of observing the practices in themselves and others;
> --did not rely on lecture presentations as the main activity;
> --were conducted at the school site if the programs emphasized affective or skill performance objectives.
>
> One of the variables that did not account for differences in outcomes was whether or not teachers had a choice of participating in the program (pp. 4-6).

In summary, this analysis suggests that effective inservice involves teachers in all phases; is designed as a collective, general staff effort; is locally planned and implemented; occurs outside of regular working hours; gives the teacher the main responsibility for learning; uses a variety of strategies; provides for demonstration, practice and feedback; maintains ties with a university or other professional center; does not rely on a lecture format; and occurs at the school site.

Joyce and Showers (1980), in an effort to determine how various components of training contribute to learning, analyzed over 200 research studies which focused on the effectiveness of various kinds of training methods. They began by differentiating between two purposes of training--fine tuning present skills and learning new ways to teach:

> Generally speaking, 'fine tuning' our existing approaches is easier than mastering and implementing new ones, because the magnitude of change is smaller and less complex. When we change our repertoire, we have to learn to think differently, to behave differently, and to help children adapt to and become comfortable with the new approaches, so mastery of new techniques requires more intensive training than does the fine tuning. (p. 380)

To conduct the analysis, Joyce and Showers developed a typology of levels of impact and categories of components of training. They classified the outcomes of training into one of the following levels of impact: awareness, acquisition of concepts or organized knowledge, learning of principles and skills, and ability to apply those principles and skills in problem-solving situations. Impact on children is only possible after the fourth level has been reached (p. 380).

Five training components, used alone or in combination, contribute to the level of impact:

> 1. Presentation of theory or description of skill or strategy;
> 2. Modeling or demonstration of skills or models of teaching;
> 3. Practice in simulated and classroom settings;
> 4. Structured and open-ended feedback (provision of information about performance); and
> 5. Coaching for application (hands-on, in classroom assistance with the transfer of skills and strategies to the classroom) (p. 380).

Since determining the levels of impact for each of the studies was difficult, the reviewers developed working hypotheses of expected levels of impact. They state, "Although the conclusions here are working hypotheses, we believe they adequately represent the present state of the literature and that training programs can use them reliably" (p. 381). From their analysis, Joyce and Showers present the following findings about levels of impact regarding components of training:

> 1. Either for tuning of style or mastery of new approaches, presentation of theory can raise awareness and increase conceptual control of an area to some extent. However, it is for relatively few teachers that it results in skill acquisition or the transfer of skills into the classroom situation....It is not powerful enough alone to achieve much impact beyond the awareness level, but when combined with the others, it is an important component.
> 2. Modeling appears to have a considerable effect on awareness and some on knowledge. Demonstration also increases the mastery of theory....However, for most teachers modeling alone is unlikely to result in the acquisition and transfer of skills unless it is accompanied by other components.
> 3. ...practice is a very efficient way of acquiring skills and strategies whether related to the tuning of style or the mastery of new approaches....it is probable that the more complex and unfamiliar the skill or strategy, the lower will be the level of transfer.
>
> 4a. [Structured] feedback (i.e., a system for observing and reflecting about teaching behavior) can result in considerable awareness of one's teaching behavior and knowledge about alternatives. With respect to the fine tuning of styles, it has reasonable power for acquisition of

> skills and their transfer to the classroom situation....feedback alone does not appear to provide permanent changes, but regular and consistent feedback is probably necessary if people are to make changes in very many areas of behavior and maintain those changes.
>
> 4b. [Unstructured] feedback (i.e., informal discussion following observation) has uneven impact....[it] best accomplishes an awareness of teaching style and as such can be very useful in providing "readiness" for more extensive and directed training activities.
>
> 5. When the other training components are used in combination, the levels of impact are considerable for most teachers up through the skill level....For many others, however, direct coaching on how to apply the new skills and models appears to be necessary.
>
> For maximum effectiveness of most inservice activities, it appears wisest to include several and perhaps all of the training components we have listed. Where the fine tuning of style is the focus, modeling, practice under simulated conditions, and practice in the classroom combined with feedback, will probably result in considerable changes. Where the mastery of a new approach is the desired outcome, presentations and discussions of theory and coaching to application are probably necessary as well....If any of these components are left out, the impact of training will be weakened in the sense that fewer numbers of people will progress to the transfer level. (pp. 382-4)

Based upon their analysis, Joyce and Showers advocate the use of modeling, practice and feedback when the goal involves minor change in style and the use of theoretical presentations and coaching in addition to these three components for major changes involving mastery of a new approach.

Wade (1984-5) used meta-analysis to compare the effects of inservice teacher training programs reported in 91 studies (selected from over 300) dating from 1968 to 1983. The main features of the studies were grouped into eight categories of variables. The results of the meta analysis follow:

1. Effect Levels. "Inservice teacher education programs reported in the literature are moderately effective....Attempts to increase participants' **learning** through inservice teacher training are highly effective; attempts to change participants' **behavior** and to elicit positive **reactions** to the training are moderately effective; while attempts to demonstrate **results** by looking at the students of participants are only mildly effective" (p. 50).
2. Duration. Length of treatment resulted in no significant difference (p. 50).
3. Training Group Characteristics. "Training groups involving both elementary and secondary teachers achieved higher effect sizes than groups enrolling only elementary or only secondary level educators." Voluntary or required attendance, size of training group, and composition of group showed no difference (pp. 50-1).
4. Location and Scheduling. No variables resulted in significantly different effect size (p. 51).
5. Sponsorship. "Training programs initiated, developed, or funded by the state or federal government or a university were significantly more effective than those initiated within the school, either by teachers, administrators, or supervisors" (p. 51).
6. Participant Incentives. The greatest effect was apparent if the participants were selected or competed to attend. College credit and release time produced moderate effect sizes while pay, certificate renewal, and no incentives resulted in small effect sizes (p. 52).
7. Structure. "Independent study produced the highest effect size....There do not appear to be important differences in the effect sizes among workshops, courses, mini-courses, or institutions, all of which...are moderately effective" (p. 52).
8. Instructional Technique. The **most** effective instructional methods are observation of actual classroom practice, micro teaching, video/audio feedback, and practice. The **least** effective are discussion, lecture, games/simulations, and guided field trips. Those which are **moderately** effective are coaching, modeling, production of instructional materials, programmed study and film. Different combinations of techniques resulted in no "magical" combination which was more effective. Higher effects were produced by practical rather than theoretical teaching and instructor rather than participant led instruction. "Support staff and college personnel as instructors are moderately effective, while teachers and state department of education representatives produced only small positive gains" (pp. 52-3).

Wade, in general, concludes that highly to moderately effective inservice education focuses on knowledge learning and change in behavior; provides joint programs for elementary and secondary personnel; is sponsored and developed by government agencies or universities; involves participants who are selected or have to compete to attend; provides college credit or release time; emphasizes independent study or workshops and courses; and provides for observation of classrooms, practice, modeling and coaching.

Daresh (1986) analyzed over 500 studies conducted between 1977 and 1984 in an effort to review the status of research on inservice education and staff development in the United States, the United Kingdom, Australia and Canada. Findings from this review which are relevant to this study include:

> CONTENT
>
> 1. Staff development and inservice education is viewed as more effective when content is based on the self-reported needs of participants.
> 2. Desired staff development and inservice education content is concerned with topics of immediate concern to practitioners.
> 3. There appeared to be few strong relationships between selected demographics background characteristics of teachers and their specified staff development and inservice education interests....The length of experience of teachers was an important and accurate predictor of staff development and inservice interests. Teachers indicated a gradual shift through their careers, with topics moving from those indicative of teacher-centeredness to greater child-centeredness.
> 4. Teachers and other educators wanted to be involved in planning their own staff development and inservice education programs and activities.
>
> PROCEDURES
>
> 1. There is a general dissatisfaction, or a least lack of interest, with existing procedures of most staff development and inservice education programs and activities.
> 2. Staff development and inservice education participants wanted to be involved with planning, implementing, and evaluating their learning experiences.
> 3. Staff development and inservice education participants indicated that they preferred activities and programs which made them active participants in a process, not passive observers of presentations by others who 'talked at' them.

> Demonstrations were more highly valued than strict lecture presentations.
>
> 4. Staff development and inservice education is viewed as more effective when it is part of training that continues over an extended period of time. Short-term, 'one-shot' sessions were viewed negatively. (pp. 7-8)

In summary, in terms of the content of staff development and inservice education, participants preferred programs which reflected their self-reported needs, immediate concerns, interests related to their years of experience, and their input from planning. In terms of procedures, they showed a general dissatisfaction with the norm, wanted to be involved in all phases, desired active participation, and preferred on-going programs.

These reviews attempt to describe what actually occurs in inservice education based upon research. Yet, in some cases they arrive at similar conclusions. The findings from two or more reviews support school based programs; teacher involvement in initiating, planning and conducting programs; active teacher participation; use of a variety of methods (e.g., lecture, demonstration, practice, feedback, observation); and self-initiated and independent study. They differ on the degree of effectiveness of programs aimed at changing teacher behavior; teacher and university personnel as instructors; appropriate time of inservice; workshops; and coaching.

While these reviews provide useful information, they must be considered within the context of their methodology (Yarger & Galluzzo, 1983; Wade, 1984-5; Sparks, 1984-5). The reviews are only as good as the original research, which has been highly criticized. Criteria for selection of research to be included, ease of access to the research, as well as reviewer judgment, shape the final product. The fact that meta-analysis can only be used with quantitative studies ignores a wealth of information available from naturalistic research. Consequently, these reviews represent current, best information, not definitive statements about inservice education.

CHARACTERISTICS OF EFFECTIVE INSERVICE EDUCATION

Based upon reviews, original research, experience and intuition, many authors provide lists of characteristics which they deem essential to an effective inservice or staff development program. Through the use of tables and narrative, the following attempts to summarize these suggestions, looking for major emphasis. It is not intended as a comprehensive review of all characteristics identified in the literature. Instead it offers a sampling of ideas taken only from lists specifically identified by the authors as effective characteristics (or similar terminology). This means that similar information incorporated throughout an article was not extracted.

Approximately 140 characteristics were compiled from the following sources:

1. Arends, Hersh and Turner, 1980, p. 22-31
2. Ainsworth, 1976, p. 107
3. Berman and Friederwitzer, 1981, p. 53-4
4. Burrello and Orbaugh, 1982, p. 385-6
5. Chism, 1984, pp. 103, 107, 109, 111
6. Daresh, 1985, p. 221
7. Griffin, 1983a, p. 424
8. Howey, Matthes, & Zimpher, 1985, pp. 113-4
9. Hutson, 1979, pp. 16-7
10. Little, in Howey et al., 1985, pp. 77-8
11. Mertens, 1982, p. 65-6
12. Orlich, 1984, p. 35
13. (PAR) Staff, 1983, p. 3-4
14. Sparks, 1983, p. 71
15. Wade, 1984-5, p. 53
16. Wood and Thompson, 1980, p. 377; Wood, Thompson, & Russel, 1981, p. 89-90

As in most efforts to group information, some of the richness and depth of individual entries become weakened as they are collapsed with others into similar sets. While a decision to place an item in one category or another appears clear cut in one instance, in another it requires interpretation and personal judgment. Every effort was made to remain true to the original authors' language and intent.

From all the items, 39 different characteristics emerge. They are organized and presented based upon five facets of effective staff development discussed in Staff Development Leadership: A Resource Book (Mertz, 1983).

1. Planning and Decision-making includes such issues as why plan, who plans, who governs, what information is needed, what programs are needed (pp. 27-30).
2. Needs Assessment involves establishing a committee, planning, gathering data, interpreting data, setting priorities, evaluating the process (pp. 35-39).
3. Program Planning and Alternative Delivery Strategies focuses on a six step planning process (develop working objectives, validate needs assessment, set priorities, develop plan, present plan, implement plan) and the use of a variety of strategies (e.g., lectures, demonstrations, observation, interviews, workshops and courses) and supervised practice and feedback (pp. 43-48).
4. Program Implementation is concerned with selection of presenters and consultants, types of materials, facilities, participant attitudes, and motivation of adult learners (pp. 51-56).
5. Evaluation addresses objectives, investments, and results and benefits (pp. 59-64).

From the 39 characteristics, the 10 which have the strongest support are listed below and highlighted in bold print within Tables 1-5. Seven authors support numbers 1-4 and 6 authors support numbers 5-10.

Inservice education should:

1. involve teachers and other participants in program planning and decision making.

2. be part of and supported by the organization and administration, including the building principal.
3. focus on situation specific efforts (usually the school) and on job related tasks.
4. provide practical ideas, skills and materials which have immediate application to the job situation.
5. involve teachers, supervisors, and administrators in collaborative planning, implementation and participation.
6. meet the needs of participants.
7. be systematic and comprehensive.
8. operate in a climate that encourages collegiality and mutual support.
9. be accessible to participants, usually occurring at the school site.
10. provide for on-going, continuous evaluation which assesses the process, program, participants and student achievement.

Within the first category (see Table 1), all the characteristics were among the strongest supported. Since the first two items, "participants involved" and "collaborative," are very closely related, they could perhaps be collapsed into one highly supported characteristic (mentioned by 13 authors).

Table 1
PLANNING AND DECISION MAKING

Planning and Decision Making	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Participants involved		x	x				x	x			x			x		x
Collaborative			x	x					x	x			x			x
Part of and supported by organisation and administration		x		x			x		x				x	x		x

The authors show agreement in the category of needs assessment (see Table 2). If the first two items listed are again viewed as closely interrelated, then their combination produces strong support (11 authors) for identifying and meeting participants needs.

Table 2

NEEDS ASSESSMENT

Needs Assessment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Meet participants needs; relevant		x	x	x						x	x	x				
Do needs assessment; systematic problem identification							x	x	x				x			x
Situation/job specific		x					x	x	x			x			x	x

The third category provides less agreement. Under "Program Planning" (see Table 3), six writers refer to "comprehensive and systematic" efforts while five list the need for clearly "identified goals and objectives" and four list "continuous programs." Other items show little support. A variety of "Alternative Delivery Strategies" (see Table 3) are discussed. Some of them refer more to general process or methodology (e.g., presentation, demonstration, practice, observation, feedback, follow-up) while others refer to specific techniques or strategies (e.g., discussion, independent study, sharing, hands-on activities). "Demonstration/modeling," "practice," and "participant sharing and small group work" received the greatest support with each listed four times.

Table 3

PROGRAM PLANNING AND ALTERNATIVE DELIVERY STRATEGIES

Program Planning	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Continuous program								x	x			x	x			
Comprehensive; systematic	x	x						x	x				x			
Identify goals & objectives								x	x			x	x			
To change teaching									x							
To improve student achievement														x		
Developmental orientation		x							x							

Alternative Delivery Strategies	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Use variety of strategies	x	x						x								
Presentation/Lecture														x		
Demonstration/Modeling		x							x					x		x
Practice		x												x	x	x
Observation/Peer observation														x	x	x
Feedback		x												x	x	
Follow-up		x														
Discussion														x		
Independent study/Self instruction															x	
Participant sharing & small group work	x											x		x		x
Extra curricular activities												x				
Hands-on; concrete			x		x							x				

The fourth category (see Table 4), Program Implementation, also covers a variety of ideas, three of which were among the strongest supported: collegial and supportive climate, accessible, and practical and applicable. The first of these reinforces the idea of collaborative planning and decision-making. Four authors believe that inservice education should accommodate individual differences among adult learners and that rewards and incentives should be used.

Table 4

PROGRAM IMPLEMENTATION

Program Implementation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Use outside consultants									x						x	
Use own personnel							x						x			
Instructors plan															x	
Competent, skilled & trusted trainers					x			x	x							
Collegial and supportive climate	x	x			x		x			x	x					
Accessible; at school site			x	x					x		x		x			x
Occurs over time										x				x		
Release time			x													
Combines elementary & secondary															x	
Flexible and responsive		x		x			x									
Practical & applicable	x		x		x						x	x	x			x
Based upon adult learning theory		x				x										x
Accommodates individual differences						x		x					x			x
Provides incentives									x				x		x	x
Voluntary		x														
Focus on curriculum change & innovation			x									x				

Finally, "evaluation" (see Table 5) is listed by six writers. In general they state that it should be conducted. Some mention is given to collaborative efforts as well as self-evaluation.

Table 5

EVALUATION

Evaluation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Conduct evaluation		x	x	x					x				x			x

As with literature reviews, these lists outline current understandings about inservice education which can guide and be refined by research and practice.

WORKSHOPS

Workshops remain one of the most pervasive forms of inservice education, preferred by teachers, in spite of much criticism (Griffin, 1983a; Staff, 1983; Lawrence, 1974). Some believe that workshops are unresponsive to teachers' needs since they are frequently offered during non-school hours and without teacher collaboration (Nicholson et al., 1976, p. 9). Others criticize the limited time frame of the one-shot workshop because it precludes the opportunity for changes to be gradually integrated into the classroom and for classroom follow-up by workshop staff (Van Cleaf & Reinhartz, 1984; Sparks, 1983; Joyce & Showers, 1982; Joyce et al., 1976).

Yet, others support the use of short workshops. The goals of a program should dictate the form of inservice education. If the goal is to boost morale, increase awareness, introduce concepts or introduce ways to present materials, then the one-day workshop can be successful. However, if the goal is to change behavior or to integrate learning into the curriculum, then long-term efforts are required (Staff, 1983, p. 1).

Mayer and Fortner (1985) evaluated the effectiveness of four different dissemination modes of curriculum materials: awareness workshops (1 1/2 days, optional college credit), implementation workshops (10 sessions, for college credit), mail orders, and museum student program. They found that the short workshop resulted in the highest user rate and the highest rate of introduction to other teachers. They suggest that participants in the short workshop as compared to those in the long workshop may be more interested in the professional benefits of the experience than in receiving college credit (pp. 1-3).

PARTICIPANT CHARACTERISTICS

The effectiveness of workshops and other forms of inservice education directly depends upon the nature of the participants attending. Van Cleaf and Reinhartz (1984) propose three categories of participants--non-perceivers and two types of perceivers. Non-perceivers do not recognize a problem nor the need to attend an inservice program and typically will not benefit from the inservice. Perceivers, on the other hand, see the need and the problem but differ in their ability to apply what they learn. The first type of perceiver (P1) has an adequate knowledge base as it pertains to the problem and, therefore, can readily use the information presented. Participants in this group often respond well to one-shot workshops. The second type of perceiver (P2) lacks the knowledge base necessary to effectively understand and use the information. Type two perceivers require further inservice sessions and follow-up in the classroom (pp. 167-8).

Chism (1984) describes three types of growth ethics. Most teachers exhibit responsive growth in which their need to change results from external pressures (e.g., different learners, new curriculum guides). In proactive growth, teachers initiate change on their own to solve a perceived problem, for example, or for new ideas.

Finally, reluctant growth depicts the smallest group of teachers, those who resist any change (p. 80).

MODELS OF INSERVICE EDUCATION

With all this research, experience, knowledge and understanding, surprisingly few models for inservice education exist. Program descriptions abound but are usually too subject-specific and/or situation-specific to serve as a general model. Others only elaborate upon what could be considered a piece or pieces of a model as in Joyce and Showers' "five training components" previously discussed.

Wood, Thompson, and Russell (1981), however, propose the RPTIM Model (Readiness, Planning, Training, Implementation and Maintenance) as a comprehensive framework for designing inservice staff development programs. It is based upon the following assumptions:

1. All school personnel need inservice education throughout their careers.
2. Significant improvement in educational practice takes considerable time and long-term inservice programs.
3. Inservice education should focus on improving the quality of school programs.
4. Educators are motivated to learn new things when they have some control over their learning and are free from threat.
5. Educators vary widely in their competencies and readiness to learn.
6. Professional growth requires commitment to new performance norms.
7. School climate influences the success of professional development.
8. The school is the most appropriate unit or target of change in education.
9. School districts have the primary responsibility for providing the resources for inservice education.
10. The principal is the key element for adoption and continued use of new practices and programs in school. (Wood, McQuarrie, & Thompson, 1982, pp. 28-9)

From these assumptions emerge five stages of staff development:

> Stage I, Readiness, emphasizes selection and understanding of, and commitment to, new behaviors by a school staff or group of educators. In stage II, Planning, the specific plans for an inservice program (to be implemented over three to five years) are developed to achieve the desired changes or professional practice selected in Stage I. In the Training Stage, Stage III, the plans are translated into practice. The Implementation Stage, Stage IV, focuses on insuring that the training becomes part of the ongoing professional behavior of teachers and administrators in their own work setting. Stage V, Maintenance, begins as new behaviors are integrated into daily practice. The aim of this final stage is to ensure that once a change in performance is operational, it will continue over time. (Wood et al., 1981, p. 64)

These stages are further defined by 38 specific practices. A national survey of professors and practitioners indicated strong support for both the practices and the underlying assumptions (Wood et al., 1982, p. 30).

While the RPTIM model research suggests what "ought" to occur in inservice education, Sparks' (1983) research on a similar model shows results after implementation. The Staff Development for School Improvement (SDSI) model has six steps: "1) awareness, readiness, and commitment among staff; 2) needs assessment; 3) planning; 4) implementation; 5) evaluation; and 6) reassessment and continuation" (p.66). The study showed "improvements in teachers' knowledge, skills, and communication" and "the opportunity to have responsibility for staff development and the improved school climate" as the most commonly mentioned strengths (p. 66).

SUMMARY

The field of inservice education and staff development remains somewhat unsettled as reflected in the disputes over terminology and the perceived "flawed" state of the art. In general, inservice consists of four major components: context, assessment, content and process. In spite of criticisms about the research in the field, evidence points to a number of factors which result in effective inservice. Some of these include school-based and local programs; teacher involvement in all phases of inservice; active participation on the part of teachers and educators; the use of presentation, modeling, practice and feedback; the use of a variety of strategies; emphasis on practical skills and materials which have immediate application; and administrative and peer support. While the use of workshops as an inservice strategy has been criticized for its typically short-term approach and lack of follow-up, it has received support when used for awareness and motivational purposes or to present material. The effectiveness of inservice also depends upon the characteristics of the participants with some individuals more ready and willing to develop than others. Some models for inservice education, while not numerous, do reflect many of the factors for effective programs described in the literature.

Teachers' Thought Processes

This section is not intended as a comprehensive review of the literature on teachers' thought processes but only as an indicator of some of the factors which influence teachers' decisions on whether or not and how they would use a program such as Project WILD. Clark and Peterson (1986) describe three categories of teachers' thought processes. Teacher planning involves the thought processes that teachers engage in prior to teaching (i.e., preactive; prior to interaction with students) as well as those following teaching (i.e., postactive; following interaction with students). This becomes cyclic in that thoughts following a lesson on one day may influence thoughts about a lesson on the next day before teaching. The second category, teachers' interactive thoughts and decisions occurs during the process of teaching. The last category, teachers' theories and beliefs, represents the "rich store of knowledge" that guides and influences their planning and interactive thoughts and decisions. In addition, teachers' thought process, as with the process of teaching itself, may be influenced by a variety of constraints and opportunities, or the "extent to which responsibility and participation in the decision-making process are given to teachers" (pp. 257-8). Several key ideas appear in the literature which relate to this study.

To begin, planning may be viewed as the means by which teachers "translate syllabus, guidelines, institutional expectations and their own beliefs and ideologies of education into guides for action in the classroom" and it is "aimed principally at the selection and construction of activities" (Calderhead, 1984, p. 69, 72). Zahorik (1982) defines learning activities as the "means by which teachers bring students into contact with subject matter" (p. 309-10).

The focus on activities within planning emerges as a major factor. Zahorik (1975) found that the most frequently made decision about planning involved pupil activities (81%). Yinger (1979) concluded that activities served as "the basic instructional units of planning and action in the classroom" forming a kind of boundary surrounding all classroom action and interaction (p. 164). Seven features that characterize activities and which influence teachers' planning decisions included: location, structure and sequence, duration, participation, acceptable student behavior, instructional moves, and content and material (p. 165). Calderhead (1984) confers in this recognition of the emphasis on activities and suggests that planning decisions focus on subject matter, sequence, availability of materials, nature of the students, classroom organization, time of day, and student expectations and achievement among other factors.

Zahorik (1982) interviewed 13 volunteer elementary teachers to study their perceptions of the nature and function of learning activities. The primary reason cited by teachers for the success of an activity was its motivational abilities. He concluded:

> Successful learning activities are often those that engage students in action-oriented tasks, use artifacts and objects, place the teacher in a facilitator role, and utilize informal evaluation. In contrast, unsuccessful activities (nonskill and skill) generally include more recall, inactive student tasks, information giving and monitoring, use of textbooks and workbooks, and formal evaluation. (p. 315)

In a similar study, 14 elementary teachers rated activities from high to low on attractiveness and listed features that contributed to that judgment. The highest ratings went to activities which increased student motivation and involvement, were not difficult, and were considered as good ways to teach the content. Low ratings related to the difficulty and the demands upon the teacher. (Clark & Yinger, 1979).

Calderhead (1984) discusses classroom management in the context of activities. He suggests that the reason why teachers find activities which highly involve students so popular is because they decrease classroom management concerns. He states that the essence of classroom management "lies in the types of decisions made and strategies adopted in designing, implementing and maintaining activities" (p. 24).

In addition to the emphasis on activities found in Yinger's study (1979), he identified four routines which the teacher used to "establish and regulate instructional activities and to simplify the planning process. These included 1) activity routines which control and coordinate the features of classroom activities, 2) instructional routines which involve methods and procedures which the teacher uses to carry out instructional moves, 3) management routines which control and coordinated the organization of the classroom and behavior not associated with a specific activity, and 4) executive planning routines or meta-routines that coordinate the sequence and organization of the other routines over time (pp. 166-167).

In the review of literature conducted by Clark and Peterson (1986), time is another factor which influences planning. First, it relates to the time period covered by a teacher's plan (e.g., daily lesson plan, weekly lesson plan, long-term planning for the year). Structures and social features established early in the year as well as other routines, such as those identified by Yinger (1979), guide and influence planning throughout the rest of the year. In addition, the flow of activities through subject matter during the year, week or day determines planning decisions. McCutcheon (1980) discusses the influence of the time of the year (e.g., holiday themes) as well as the allocated amount of time (e.g., 90 minutes per day on reading and 20 for science) on planning decisions.

Another factor involves content. Zahorik (1975) found that the planning decision most often made first addressed content (51%). Studies reported by Clark and Peterson (1986) suggest that teachers' decisions about what is taught is influenced primarily by curriculum materials and that content planning most often took the form of a unit plan. One study showed unit plans as a mental picture with only rough notes on paper as a guide. McCutcheon (1980) also supports the influence of the textbook upon subject matter planning as well as time and the personal interests of the teacher.

Finally, the context within which teachers plan and teach determines to a great extent the nature of their decisions. Calderhead (1984) states:

> Rather than start with a conception of what is to be achieved and deduce which classroom activities would therefore be ideal, teachers start with a conception of their working context and from that decide what is possible. (p. 74)

Studies reviewed by Clark and Peterson (1986) stress the importance of context, the need for teachers to "visualize" an activity or to "try out" activities within the context of the classroom.

In discussing context, Calderhead (1984) identifies two categories of constraints on teachers: physical (e.g., number of students, availability of materials) and ideological (e.g., beliefs, values, expectations). He also emphasizes that many constraints are beyond the control of the teacher. McCutcheon (1980) identifies a number of contextual influences on planning including teacher isolation, availability of materials, administrative practices and policies, scheduling, class size, and perceived freedom to adapt materials to meet children's needs.

Teachers' thought processes related to planning are governed in large part by the role of activities, routines, time, content and context. This holds powerful implications for the introduction of new innovations into an educational setting. Are the activities appealing and attractive? Will the innovation fit into the established routines? Can it be taught during the allocated time? Will it require much planning time from the teacher? Will it fit into the established flow of activities? Will it serve the content needs of the teacher? What constraints and opportunities exist to promote or hinder the use of the innovation?

Summary

The fields of literature reviewed in this chapter help to illuminate the process of curriculum implementation and to guide this research. The need for a better understanding of implementation arises from what some researchers viewed as an abysmal record of failure to implement innovations. Much of what was learned relates to implementation as an extension of development--something needed to happen after development if implementation was to occur. This literature review presents curriculum implementation and educational change as highly interrelated processes. While a need exists to investigate implementation as a separate process, its complexity requires that it be examined within a larger context. Many models of educational change exhibit three major phases generally described as initiation, implementation and integration. Key factors influence these phases and shape the process. An understanding of the impact of these factors provides insight into variations in implementation and perceptions of success and failure.

Inservice education and staff development emerge as one of the major factors that influence implementation. Yet, just as inservice education shapes implementation, a variety of factors shape inservice education. Just as the literature speaks of the failures of implementation, it speaks of the flawed state of inservice education. Rather than phases, the literature on inservice education identifies components which include context, assessment, content and process. The effectiveness of inservice programs reflects the depth of understanding of these four dimensions and the factors influencing them.

Since the goal of curriculum implementation points to use of the innovation in the classroom, factors affecting this arena also mold implementation--to what extent, if at all, is an innovation used, in what manner and why? Literature on teachers' thought processes provides insight into teacher planning.

These four fields of literature, which are intricately interwoven, provide a foundation for a conceptual framework for data collection and analysis as discussed in the next chapter. They each relate in varying degrees to all of the phases and levels of curriculum implementation as exemplified in this study by Project WILD.

CHAPTER III

METHODOLOGY

Rationale

Guba and Lincoln (1981) distinguish between the two inquiry paradigms most frequently used in social-behavioral research--the scientific and the naturalistic. They outline how the two paradigms differ on basic assumptions. The former views reality as a single entity and phenomena as convergent and fragmentable. The latter recognizes multiple views of the same reality and phenomena as divergent and interrelated. Scientific researchers believe that the inquirer can function independent of the research subject having little or no researcher effect, while naturalistic researchers believe that interaction between the two are unavoidable. Finally, scientific study leads to generalizations, nomothetic knowledge, and an emphasis on similarities, while naturalistic study leads to working hypotheses, idiographic statements and an emphasis on differences--i.e., the development of general laws versus understanding of particular events (pp.56-59).

Rist (1977) writes from a similar perspective. He states, "When we speak of 'quantitative' or 'qualitative' methodologies, we are, in the final analysis, speaking of an interrelated set of assumptions about the social world which are philosophical, ideological, and epistemological. They encompass more than simply data-gathering techniques" (p. 43). In discussing the relationship between methods and the environment, he continues, "The methods one employs to articulate knowledge of reality necessarily flow from beliefs and values one holds about the very nature of the reality" (p.43). While some authors advocate the use of both paradigms, Guba and Lincoln (1981) suggest that one fits behavioral inquiry better than the other:

> ...the assumptions of the naturalistic paradigm have greater validity. Discrete variables and their relationships do not seem to be sufficient to deal with the complex interactions and patterns of human behavior. Investigators not only find their subjects reactive but are themselves changed by the quality of their interactions with subjects. Generalizations tend to have short half-lives....the naturalistic paradigm will be found preferable in the large majority of behavioral inquiries and, most assuredly, in the large majority of educational evaluations.

Bogdan and Biklen (1982) identify five features which characterize qualitative research. First, the natural setting serves as the direct source of the data and the researcher serves as the main instrument. Qualitative researchers believe that the context within which actions occur influences human behavior. Second, qualitative research is descriptive rather than numerical, drawing upon interview transcripts, field notes, documents and audio-visuals for data. Third, the research focuses on process rather than on outcomes and products. Fourth, data are analyzed inductively, with theory emerging from the process. Finally, qualitative researchers are concerned with how people make sense out of their world. By understanding the individual perspectives of people within a setting, the researcher can provide greater meaning about the setting and the processes governing the setting (pp. 27-30).

Specifically, the nature of this problem suggests the use of a case study approach--the intense examination of one setting, one subject, or one event. According to Herriott and Gross (1979), the case study method "constitutes a highly useful mechanism to describe and analyze the complexities and realities of change efforts and the personal, social, and cultural factors that influence them" (pp. 353-4). Yarger and Galluzzo (1983) emphasize the value of case studies for understanding the process dimension of developing inservice programs but note the limited number of these that exist. "Certainly one aspect of research on inservice education that needs a great deal of work is the accurate and objective description of how one goes about developing a program that is believed to be a contribution to the field" (p. 168).

Guba and Lincoln (1981), in a discussion of different types of reports appropriate for naturalistic studies, propose that the case study is the best because it provides both description and judgments while striving for completeness and robustness (p. 370). They identify a number of advantages to the case study. It provides "thick description," is ideal for presenting grounded data which emerge from the context of the study, provides a holistic and lifelike depiction, presents essential information in an understandable form, brings out the meaning of the situation, and builds on "tacit knowledge" (pp. 375-6).

The type of case study depends, again, on the nature and purpose of the research. Bogdan and Biklen (1982) would categorize this study as an "observational case study" in which the "major data-gathering technique is participant observation and the focus of the study is on a particular organization...or some aspect of the organization" (p.59). Guba and Lincoln propose a matrix of types of case studies which crosses 4 general **purposes** of case studies (i.e., to chronicle, render, teach, and test) with 3 different **levels** (i.e., factual, interpretive, and evaluative) yielding 12 types. They generalize that most research case studies would be classified in one or more cells of the matrix but do not normally fall under "evaluative" nor do they have "to teach" as a purpose (p. 371-74). The purposes of this particular study are to chronicle and to render an account of the implementation of one program (Project WILD) in one state--that is, "to develop a register of facts or events in the order (more or less) in which they happen" and "to depict or characterize" these events in a way by which to lend meaning (p. 371). It is not an evaluative study.

Scope of Research

In order to gather the data pertinent to this study of curriculum implementation, it was necessary to identify the events which comprise the overall process, tracing them from the national level to classroom use of the materials. Chapter I of this dissertation presents an overview of Project WILD, policies for implementation, and a brief history of the program in the research state. Table 6 outlines more specifically the key events according to the level of implementation at which they occur--national, state, facilitator, and educator. Although it is necessary to include all phases of the curriculum implementation process in the study in order to obtain the most complete range of data, the scope of this project prohibits the investigation of every

Table 6

EVENTS COMPRISING THE IMPLEMENTATION PROCESS OF PROJECT WILD IN THE RESEARCH STATE

NATIONAL LEVEL	STATE LEVEL	LOCAL LEVEL	EDUCATOR LEVEL
*WILD curriculum materials already exist *WILD steering committee provides implementation policies for states to follow *WILD materials are provided for purchase by state sponsoring agent *two national level facilitators are provided for leadership workshops *pertinent communications are provided	Sponsoring agency: *signs contract and pays fee to WREEC *designates two co-directors to initiate, supervise and maintain WILD activities in state *establishes a state level planning and advisory committee *develops a 3-year implementation plan *coordinates total inservice program *conducts leadership level inservice program *distributes WILD materials *provides resource materials and people *provides pertinent communication *evaluates program	Select educators: *attend leadership workshop *plan and conduct local inservice education including workshops and short presentations *order WILD materials *utilize state and local resource materials and people *submit required workshop proposal, reports, and evaluation forms	Educators: *attend teacher workshops *use materials *use resource materials and people

activity within each phase. Therefore, the following research agenda was used to guide the collection of a range of data for the different phases:

--conduct focused interviews with selected Project WILD national leaders (e.g., national staff, steering committee, WREEC, Western Association for Fish and Wildlife Agencies, curriculum developers),
--attend national coordinators' conference in 1985,
--conduct focused interviews with selected leaders in state (e.g., department of education, wildlife agency, other pertinent organizations).
--meet on a regular basis with the two project coordinators for updates,
--attend all advisory council meetings and selected planning meetings,
--observe all leadership workshops held through December, 1985,
--conduct focused interviews with at least one member of each facilitator team in the research area,
--observe 3 teacher workshops to be held in the research area,
--conduct focused interviews with 15 elementary and secondary teachers from the above teacher workshops,
--observe the use of the materials in the classroom of 2 of the above teachers, each representing a different school system and grade level.

Gaining Entrance and Sampling Process

Prior to the study, I was already part of this curriculum implementation process as an environmental educator encouraging the adoption of the program within the state and as a facilitator who was certified in a neighboring state. Since several agencies within the state were interested in sponsoring Project WILD, I used state and national contacts in an effort to keep track of the progress and to know when the program would be officially adopted into the state.

In June of 1984, I learned that the state department of education was planning to sponsor Project WILD. The first level of entrance involved contacting the state coordinator by phone. I explained my interest in the program, my background and my desire to conduct the research. This was followed by a letter and a meeting with her. Both the coordinator and the director of her division were supportive of the research, believing that it would provide valuable information for them. In addition, I was asked to become actively involved in the project. Eventually my role evolved into that of a consultant to the director of the project, a member of the state advisory committee, and one of the facilitators for each of the state leadership workshops conducted as part of the implementation process.

Once initial entrance was gained, sampling began. This involved selecting from among all the people, settings, events and processes related to this study, those few who could facilitate the understanding of the implementation process (Schatzman and Strauss, 1973; Miles and Huberman, 1984). Two specific techniques described by Bogdan and Biklen (1982) were used. The main sampling method, purposeful sampling, involved identifying key people, settings, events and processes that most seemed to represent the overall process. Then, through snowball sampling, these first people were asked who else and what else should be included in order to depict the total process.

Selection of people to interview and workshops to observe occurred over the next fifteen months. While selection criteria varied somewhat from level to level, several remained constant. The person or event had to be representative of the overall process (e.g., program developers, initiators, staff, steering committee members, state coordinators, agency decision-makers, facilitators, teachers) as well as of the diversity within the process (e.g., educators and wildlife experts, elementary and secondary, different workshop formats). In addition, all people had to be willing to cooperate--voluntary participation.

With few exceptions, individuals selected for the study were contacted by phone to invite their participation and to arrange a time and place, at their convenience, for an interview. The introductory conversation varied depending on how well I already knew the person and their knowledge of the study, but, in general, it followed this pattern:

> My name is Diane Cantrell and I am a graduate student currently conducting research in cooperation with the state department of education on Project WILD. You have been selected to participate in this study which is looking at the implementation of the program in your state. I would like to interview you at your convenience. The interview takes approximately two hours and includes general questions about the program, the workshop you attended, and your use or nonuse of the materials. The study is not intended to evaluate you or the program. I'm simply looking at how it is implemented. Your identity will remain confidential.

At the **national level**, initial contact was made with the project director by phone. She expressed an interest in the study and discussed possible research issues, names of national people to interview, and the possibility of funding through the national Steering Committee. At the 1985 National Coordinators' Conference, I had the opportunity to introduce myself and to describe the study to all of the participants and, specifically, to meet many of the national leaders I hoped to interview later.

At both the national and state level, in addition to the previously mentioned criteria, people were selected for participation based upon the frequency with which their names were suggested by others as someone who should be interviewed and upon my judgment of who was important to interview as a result of my increasing knowledge and understanding of the process. Ten national and ten state people were identified to interview. All accepted the invitation.

Since the primary audience for Project WILD is elementary and secondary school teachers, only facilitators and teachers working directly or indirectly with school personnel and students were included in the study. In addition, facilitators and teachers had to work within a 50 mile radius of my home town to enable me to interview them in person and to do the field observations. This 50 mile limitation was based upon travel time, expense of traveling versus long-distance phone charges, and a belief that face-to-face interviews are more effective than telephone interviews.

From those meeting these criteria, one facilitator from each team from the first two leadership workshops was randomly selected to be interviewed. Only one person refused to be interviewed. He believed that he had nothing to contribute since he had not used the program. When I was unable to convince him that using the materials was not necessary in order to participate, I interviewed his co-worker and partner instead. In two other cases, the persons were willing, but repeated scheduling problems forced me to use their partners instead. Fourteen people were interviewed. Several people did not believe that they would be "helpful" because they had not conducted a workshop or had not used the program extensively. I reassured them that it was also important for the study to collect data on nonuse and limited use. Finding another person who had not utilized the program at all proved impossible within the research area. In an effort to do this, I selected three additional people for whom I had no evidence of use.

When I found out that they had, I conducted a modified interview which focused specifically on their implementation of the materials.

Selecting the three teacher workshops to observe was more difficult. Problems arose with scheduling conflicts, facilitators not processing workshop proposals forms in time for me to find out about potential workshops, and limited numbers of workshops for secondary teachers. As with individuals, the workshops needed to be representative. The three were eventually chosen more because of availability and opportunity than by random procedures. Who was conducting the workshop was not considered in the selection process. The workshops included one for the whole staff of an elementary school, one open to any interested person with college credit available, and one for all district secondary science teachers but open to county personnel. No one refused my request to observe the workshop.

Finally, at the **teacher level**, all teachers had to be participants in one of the workshops I observed and work within the 50 mile radius. Fifteen were selected based upon a representation of grade levels, subject areas, school districts and workshops. If more than one person met the established criteria, then random procedures were used to choose individuals. In some cases I selected several teachers in one building to facilitate entrance. An effort was made to locate a teacher in a building where no one else was certified to use Project WILD to see if "isolation" influenced use. However, all the eligible workshop participants worked in schools which had a minimum of two teachers who had attended a Project WILD workshop.

At each of the other levels, gaining entrance simply involved identifying the person and asking permission. For the teachers, the procedure was more involved. First I contacted the building principal. After giving my general introduction I said:

> Some of the teachers in your building who have attended a workshop for this program have been selected to participate in my study. Does your school or district have any particular policies or procedures which I would need to follow to receive permission to invite your teachers to participate?

Responses varied from district to district ranging from a request for a formal proposal to a letter describing the research to no requirements for entrance. In general, once permission was granted, I contacted the individual teachers giving a similar introduction and explaining what their participation would involve--a short orientation meeting (15 minutes, at their convenience), an in depth interview (2 hours, at their convenience), possibly a follow-up phone call (10 minutes), and a written record of their use of the materials. If they were interested, I mailed an explanatory letter and a sample activity record form (see Appendix A) to them prior to the orientation meeting so that they would have time to think about the study and raise questions. Of the number of teachers invited to participate, two refused because they said they did not want to fill out the record forms. Another teacher in the same building was invited and accepted. Another teacher transferred to a different district and dropped out of the study leaving a total of 15 teachers representing 6 different school districts.

At the meeting I gave them a folder containing ten copies of the record forms, self-addressed stamped envelopes to return completed forms to me and contact information if they needed to reach me. They were assured that the number of forms implied no expectations. It was not important whether they did 20 activities, 5 or none. The intent of the research was to discuss with them what they would normally do. I did not want them to try to accommodate me in any way.

In addition, one elementary and one middle school teacher were randomly selected for classroom observation. They were asked to notify me in advance by phone or by self-addressed stamped postcards (included in their packets) of the time and place of any activity they planned to use. I explained that I would verify with them if my schedule would allow me to come to observe.

In summary, initial permission to conduct this study was granted by the Department of Education. Through purposeful and snowball sampling techniques, key people, settings, events and processes were selected from four different levels of the process--national, state, local (facilitator) and educator. Separate entrance was required for each level. While dependent upon volunteers, an effort was made to represent the overall process as well as the diversity within the process. In the end, 10 national leaders, 10 state leaders, 17 facilitators and 15 elementary and secondary teachers were selected to be interviewed. In addition, a number of meetings, workshops and classrooms were selected for observation.

Data Gathering

Naturalistic or qualitative research techniques were employed during all phases of the curriculum implementation process in order to gather data about past, present, and future activities within these phases and people's observations and impressions of them. While observation and interviewing have become the two most widely used strategies for data collection, a variety of other techniques are employed by qualitative researchers including collection of personal and official records and documents, audio and video recordings, photographs, nonverbal communication, and unobtrusive measures (Lofland, 1971; Schatzman & Strauss, 1973; Guba & Lincoln, 1981; Bogdan & Biklen, 1982). The backbone of the data collection remains the researcher's field notes or "the written account of what the researcher hears, sees, experiences, and thinks in the course of collecting and reflecting on the data in a qualitative study" (Bogdan & Biklen, 1982, p.74).

Which strategy to use may not be as important as employing a variety of techniques. Based upon their literature review of implementation studies which used observation, questionnaires, interviews, and content analysis of documents, Fullan and Pomfret (1977) concluded, "Given the advantages and disadvantages of the different methods and the different information that may be uncovered, as well as the opportunity for cross-validation, it is probably desirable to employ more than one method in any given situation" (p. 367). Guba and Lincoln (1981) emphasize the need for multiple operations research (triangulation) to enable researchers to make sense of data from interviews (p. 155).

With this in mind, three methods for data gathering were used--observation, interviewing, and documentation. **Observation**, interpreted by many to mean participant observation, actually represents a continuum ranging from the "pure" observer to the "pure" participant (Schatzman and Strauss, 1973; Guba and Lincoln, 1981; Bogdan and Biklen, 1982). While either extreme is difficult to achieve, the first represents a type of one-way mirror look at the setting with no interference by the researcher, while the latter completely involves the researcher in the setting to the point perhaps of "going native" and forgetting the original goal. In between, the role of participant observer exists where the researcher plays two distinct roles, one as an outsider observing and the other as an insider participating as a group member (Guba & Lincoln, 1981, p. 190-1). In addition, the role of the researcher may be known or unknown to one or more members of the organization under study. Advantages to the use of participant observation include experiencing first-hand events while they occur, seeing the "whole" in a way that members can not, observing over time, providing easier access to people and information, building on both propositional and tacit knowledge, and increasing the opportunities for making meaning. These advantages are worth the drawbacks of over-involvement (e.g., time, task, emotions), researcher biases, loss of perspective about purpose, reactivity, and greater subjectivity (Guba & Lincoln, 1981; Schatzman & Strauss, 1973; Lofland, 1971).

For this investigation, the initial design described the researcher as mostly an observer. With the coordinator's interest in the study and willingness to involve the researcher, the role shifted over time to that of a participant-observer. The degree of participation also varied depending on the nature of the observation with maximum level of participation occurring at state level planning meetings and facilitator workshops and minimum participation at the classroom level observing the use of the materials. In all settings, the presence of the researcher and the purpose of the study were known.

Observations occurred during workshops (e.g., facilitator, reunion, teacher), meetings, and classroom visits. Field notes were written during observations and expanded afterwards. When possible, tape recordings and transcriptions were used to provide accuracy and detail. The logistics of writing field notes and tape recording in outdoor settings and during active sessions often required the dependence upon post-observation field notes for these situations.

Interviews are used to "gather descriptive data in the subject's own words so that the researcher can develop insights on how subjects interpret some piece of the world" (Bogdan & Biklen, 1982, p. 135). As with participant observation, interview formats vary along a continuum. They range from structured (interviewer formulates questions ahead of time based upon a preconceived framework and definition of problem) to unstructured (the interviewer converses with the respondent who provides the content of the interview as well as the structure and definition of the problem) (Lofland, 1971; Guba & Lincoln, 1981; Bogdan & Biklen, 1982).

While Guba and Lincoln (1981) believe that the nonstandardized interview best supports the purposes of naturalistic research (p. 157), Bogdan and Biklen (1982) believe that the purpose or goal of the research dictates the type of interview. They state:

> Even when an interview guide is employed, qualitative interviews offer the interviewer considerable latitude to pursue a range of topics and offer the subject a chance to shape the content of the interview....Some people debate which approach is more effective,

> the structured or the unstructured. With semi-structured interviews you are confident of getting comparable data across subjects, but you lose the opportunity to understand how the subjects themselves structure the topic at hand....From our perspective you do not have to choose sides. You choose a particular type to employ depending on your research goal." (p. 136)

Based upon the expansive nature of this research (national level to classroom level), semi-structured interview schedules were developed for each different level of implementation because comparability among groups and within groups was deemed essential. The use of open-ended questions, however, allowed respondents to structure ideas within topics and to pursue other topics of interest to them. Open-ended questions are most appropriate "when the issue is complex, the relevant dimensions are unknown, or the interest of the research lies in the description of a phenomenon, the exploration of a process, or the individual's formulation of an issue" (Guba & Lincoln, 1981, p. 177-8).

Interview questions were based upon research questions, the review of the literature, and issues of concern expressed by Project WILD leaders and participants. The initial questions were reviewed by experts familiar and unfamiliar with Project WILD and then revised. While the basic set of questions remained the same throughout the interviews, individual questions were added or deleted based upon increasing understanding of the process. Although basic sets of questions were developed for each level of implementation(see Appendix B), modifications were made depending on each person's level of involvement and knowledge. The greatest variation resulted at the state leadership level. General topics covered in one or more of the interview schedules included participant background, program initiation, program planning and longevity, knowledge of program, role of facilitator, inservice workshops, and classroom use of materials.

Interview procedures were fairly standard. As indicated previously, participants were contacted by phone to arrange a time and place for the interview. On the day of the interview, phone confirmation was usually made. All interviews were conducted in person except for eight national and two facilitator (modified). Most sessions averaged 2 to 2-1/2 hours in length but ranged from 30 minutes to 6 hours. While some notes were taken during the sessions, all interviews were tape recorded (in person and over the phone) and professionally transcribed. Debriefing notes were written or tape recorded following each interview.

Finally, **documentation** involved the collection of everything that appeared to have relevance for the study including memos, letters, minutes of meetings, reports, agendas, policy documents, evaluation forms, workshop forms, newsletters, and articles in magazines. While some were collected, others were routinely sent by the coordinator in the department of education. Both coordinators provided open access to their files. Others familiar with the study also sent information they thought was useful. These types of documents can provide confirmation of information gained from other sources, additional information otherwise unattainable, different perspectives on similar information, and contextual clues and insights (Guba & Lincoln, 1981; Bogdan & Biklen, 1982). In addition, an "activity record form" was developed for teachers to complete for each activity they used (see Appendix A). These provided details about the activities which might be forgotten or difficult to reconstruct by the time of the interview as well as a format for comparing use of activities.

Foundations for a Conceptual Framework

Selecting the people, setting and appropriate data-gathering techniques, while important, remains fruitless without knowing what to observe and what observations and experiences constitute potential data. The researcher needs what Schatzman and Strauss (1973) refer to as "a framework for conceptual entree."

> Such concepts do not necessarily predispose the observer to the direct use or test of any given theory; rather, they provide only some initial order for observing activities that might otherwise seem chaotic. Hopefully, these categories will, in time, move into the background as they are supplemented, or preferably supplanted, by grounded concepts more descriptive and analytic of the activities actually observed. (p.56)

As indicated previously, a comprehensive theory does not currently exist to explain this implementation process; however, Chapter II describes different theories, models and research findings which relate to parts of the process and to varying degrees to the overall process. The intent of this research is not to prove or disprove all or part of a specific theory but to look at the wholes and pieces, as well as for what might be missing, in order to guide observation and to begin to make meaning out of the data gathered--to use them as the bases for a "framework for conceptual entree" or as "the current version of the researcher's map of the territory being investigated" (Miles & Huberman, 1984, p. 33). Ultimately modified theories, parts of models, and new constructs will work together to form a new, more complete conceptual framework grounded in the data.

Initially, in developing this conceptual framework, the theories, models and findings discussed in the literature review were conceived of as links in the "chain" of curriculum implementation or possibly as "charms" enhancing the implementation "bracelet." The complexity of the process and the overlapping nature of the theories, however, immediately indicated the inadequacies of these analogies.

Instead, the concept of curriculum implementation is seen as a map revealing only the outline of a country. One theory or model could be shown as a transparent overlay of the natural features of the land--e.g., mountains, valleys, lakes, rivers, wetlands. Other "theory" overlays could represent the natural resources (e.g., mineral deposits, fishing grounds, forests), human development (e.g., cities, towns, farms, industry, transportation systems) as well as many other concepts (e.g., land capability, population density, political zones, segregation). While each overlay provides useful information about part or all of the country, none of them alone reveals a complete picture. Looking at all the pieces separately helps, but, in the end, it is the relationship between and among the overlays that yields the best understanding about the country as a whole, or about specific locations within the country.

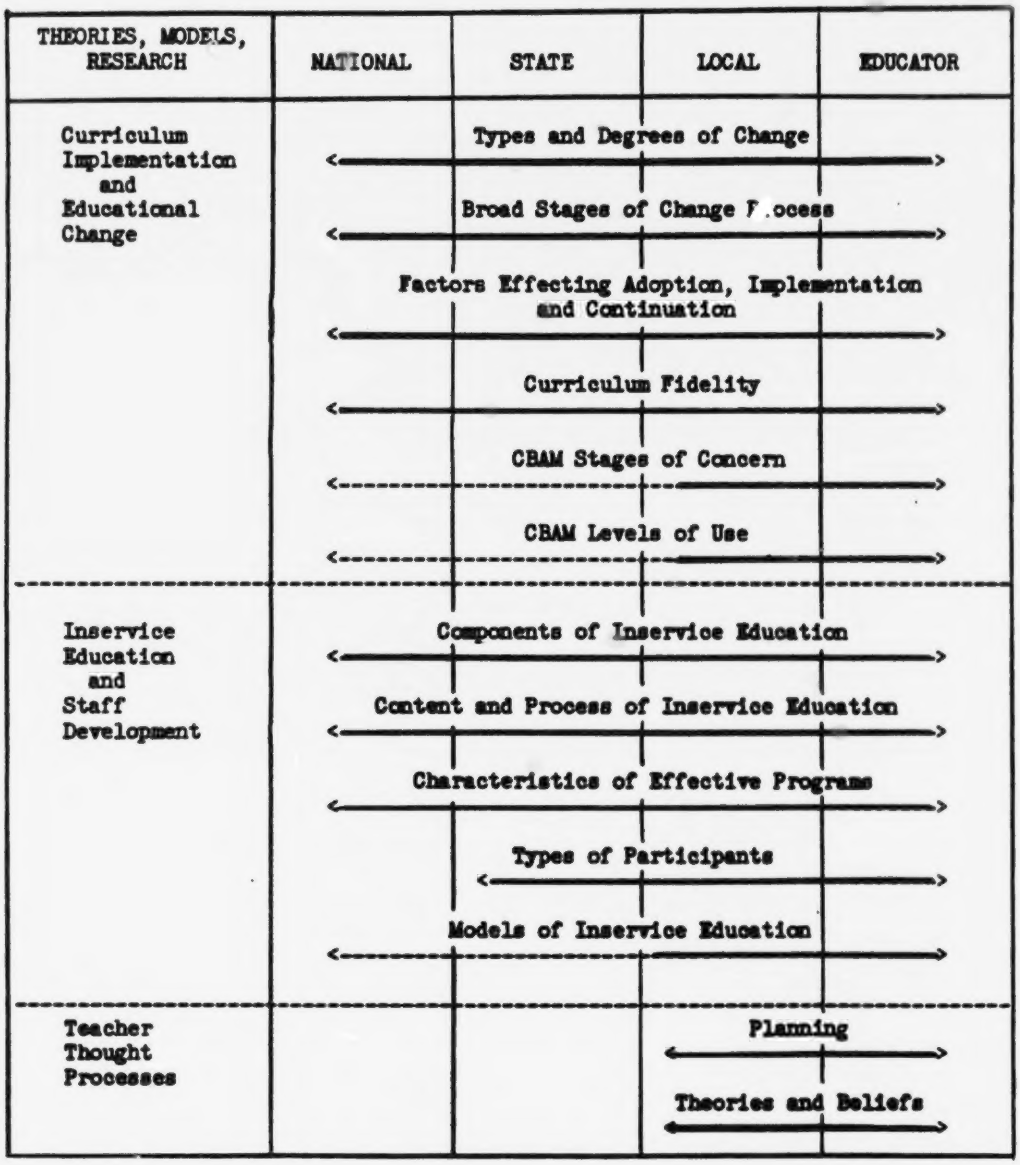
This is true, also, for the theories and models related to curriculum implementation. Table 6 (see page 93) outlines the observable events which comprise the Project WILD implementation process in the research state categorizing them according to levels of responsibility (i.e., national, state, local, educator). The processes within each event, between and among events, and between and among levels are highly interactive, indicating more complexity than this linear representation suggests.

Table 7 identifies the major theories, models and research in the fields of curriculum implementation, educational change, inservice education, and teacher planning which relate to this study. Each arrow (perceived as a separate transparent overlay) indicates which levels pertain to a given theory and to what degree (bold = greater). By mentally superimposing Table 7 (with its layers of transparencies) on top of Table 6, it is possible to envision which theories, models, and research might best lend meaning to the observable events at each level. Just as a discussion about a specific city within a country can include information about its relationship to the surrounding natural features, natural resources, transportation systems, political boundaries and declining industries, so then a discussion of a given implementation event at a given level (e.g., teacher workshop) can draw upon a variety of interrelated theories, models and research (e.g., stages of change, factors affecting implementation, Concerns Based Adoption Model (CBAM), characteristics of effective programs, teacher planning) to explain the same phenomenon from a different perspective.

By conceptualizing the study in this way (i.e., thinking about the events in Table 6 in light of the ideas in Table 7), it was possible to generate 33 research questions to guide the collection and analysis of data. These questions cover four main topics: 1) program initiation and preworkshop planning, 2) inservice workshops, 3) classroom use of materials, and 4) role of the researcher. The list of questions and specific data-gathering techniques for each are listed in Appendix C.

Table 7

FOUNDATIONS FOR A CONCEPTUAL FRAMEWORK
FOR THE
PROCESS OF IMPLEMENTATION FOR PROJECT WILD IN THE RESEARCH STATE


THEORIES, MODELS, RESEARCH
NATIONAL
STATE
LOCAL
EDUCATOR
Curriculum Implementation and Educational Change
Types and Degrees of Change
Broad Stages of Change Process
Factors Effecting Adoption, Implementation and Continuation
Curriculum Fidelity
CBAM Stages of Concern
CBAM Levels of Use
Inservice Education and Staff Development
Components of Inservice Education
Content and Process of Inservice Education
Characteristics of Effective Programs
Types of Participants
Models of Inservice Education
Teacher Thought Processes
Planning
Theories and Beliefs

Legend: <----------> Theory, Model or Research Applies
<━━━━━━━━> Greater Emphasis

In addition, the conceptual framework was used to identify ten elements of the implementation process which served as initial focal points for data gathering, in conjunction with the research questions, and as a start list of categories for data analysis. They were not intended to be mutually exclusive but rather an attempt to begin to identify various dimensions which define curriculum implementation as suggested by the theories and models outlined in Table 7.

1. Players--individual(s) and/or group(s) that participate at any point during the process (e.g., state agencies, teachers, students, special interest groups, professional organizations, PTO)

2. Decision points--decisions throughout the process that significantly affect the nature and direction of the process (e.g., decision to adopt a program, to cut part of the budget, to conduct two inservice workshops).

3. Goals and objectives--general and specific purposes which guide the process and the actions of the players (e.g., for the educational program, the implementation process, a workshop, a teacher).

4. Innovation--characteristics of the program to be implemented (e.g., complexity of change, quality of materials, ability to meet district and/or teacher goals).

5. Strategies--methods and approaches used to facilitate the curriculum implementation process (e.g., advisory committees, promotion, inservice workshop, word of mouth).

6. Conditions--circumstances which facilitate or impede the process (e.g., actions by special interest groups, availability of funding and staff, politics).

7. Timing and sequencing--when do events occur, in what order, and over what time period (e.g., the budget is cut after financial commitments are already made, workshops are only offered during the week, the curriculum is implemented after months of special interest pressure).

8. Use of the curriculum--where, when, why and how the curriculum is actually used in the educational setting (e.g., students select activities, teachers practice with materials during inservice education, teacher greatly modifies the program from the way it is written, program becomes an integral part of the curriculum).

9. Communication--when, where and how do players gain access to information about different phases of the process (e.g., monthly, newsletter sent to home, through their principal).

10. Evaluation and monitoring--when, where, why and how are different phases of the process assessed (e.g., post-workshop evaluation forms, survey, student achievement scores).

This conceptual framework served as a beginning point, guiding but not limiting the study. Given the problem statement, the setting, the participants and the methodological approach, it provided the answer to the question, "Now what?". During observation, it directed attention to potentially significant events and helped to sort out unrelated or marginal data. It provided different conceptual filters through which to observe the same occurrence--first through the lenses of educational change then through the lenses of inservice education; first from a national perspective then from a teacher's perspective. During interviewing, it guided the initial question selection for each person and assisted in probing respondents' answers to help make meaning, to help make connections with other people and other data. During the collection of documents, it served as a filter through which volumes of materials flowed, sifting those with the potential for adding data, confirming information and lending meaning from those with less potential. And this conceptual framework guided initial data analysis.

Data Analysis

The analysis of data (in the form of typed transcripts, field notes, and relevant documents) began during data collection to let "the fieldworker cycle back and forth between thinking about the existing data and generating strategies for collecting new--often better quality--data" (Miles and Huberman, 1984, p. 49). Field notes provided the most useful strategy for accomplishing this. In addition to straight forward "objective" accounting of what occurred (observation notes), field notes also contained various reflective comments pertaining to feelings, reactions, methodology, and emerging theories and patterns (Miles & Huberman, 1984; Bogdan and Biklen, 1982; Guba and Lincoln, 1981; Schatzman & Strauss, 1973). Whether noted in the margins, embedded in the notes or written as a research journal, these comments assisted in data gathering and provided a starting point for further analysis. In addition, as a further elaboration of some of these notes, the technique of "memoing," theoretical and conceptual note writing, was used to flesh out ideas and tie them together, specifically about emerging theories and patterns (Miles & Huberman, 1984; Bogdan and Biklen, 1982;Schatzman & Strauss, 1973).

This phase also involved the more mundane task of organizing volumes of data to provide easy access and retrieval during later analysis. All interviews and related notes and activity record forms were filed alphabetically by level (e.g., national, educator) in notebooks. Transcriptions of meetings, field notes, and documents were filed chronologically in notebooks to retain context. Side tabs indexed the contents for easier access. Later, duplicate copies of materials were used to form folders of topics for separate analysis (e.g., specific workshops and meetings, implementation plans, information on the controversy). In addition to the fourteen large notebooks of data, some data shifted back and forth, to and from a file drawer of "marginal" data to the notebooks, depending upon their perceived value.

After data collection, analysis occurred at a micro level involving the analysis of individual pieces and then at a macro level putting together bigger pieces. The three major techniques used were analytic summaries, displays and categories. Analytic summaries assist in data reduction by presenting an overview of one or more pieces of information, emphasizing main ideas and themes. Miles and Huberman (1984) specifically suggest the use of contact summary sheets and document summary sheets (p. 50-54). A more general form was employed here. They also advocate the use of displays, or "a spatial format that presents information systematically to the user" because the traditional narrative text of the qualitative researcher used by itself is "an extremely weak and cumbersome form of display" (p. 79). Possible types of displays include matrices, checklists, tables, charts, and figures. Finally, categories were used to classify regularities, patterns, topics and themes emerging from the data (Miles & Huberman, 1984; Bogdan & Biklen, 1982; Guba and Lincoln, 1981; Schatzman & Strauss, 1973, Lofland, 1971).

Analysis began with the interviews since they represented half of the data and would provide an overview of the whole process. First, each interview was read, along with the related field notes, and an analytic summary was written to capsulize the main ideas and themes in the interview. Specifics about individual questions were not necessarily included. Then all interviews for a given level (e.g., facilitator) were cut up, placing all answers for each question in a separate folder. These answers were then analyzed in a display form, question by question, with all respondents' answers appearing on one large sheet of ledger paper. While the nature of the display varied from question to question, it allowed for analysis of each individual's response as well as an analytic summary of all respondents' answers to the same question. Later, each question was compared across all levels using another analytic summary. A similar strategy of analytic summaries, displays, and comparisons was used for other units of analysis (e.g., workshops, meetings, communications).

Then, all data, including analytic summaries, were analyzed using displays, categories based upon the 10 previously discussed elements, and other themes which emerged from the data. Again, the analysis progressed from individual pieces, to larger groups of pieces, to comparisons, to a final overview. In conjunction with the categories and displays exhibited similar information in a concise form, provided for comparisons and showed connections between and among elements of the data.

Rigor

While researchers strive for results that others would consider rigorous and trustworthy, different authors address the fact that criteria for assessing these qualities for a non-experimental study differ from those of an experimental study. For example, some retain the terms of validity and reliability in these discussions (LeCompte and Goetz, 1982). Guba and Lincoln (1981) offer different terms which may be more applicable. They suggest that naturalistic researchers are concerned with the: 1) credibility (internal validity) of their findings, 2) applicability or how well their working hypotheses would "fit" in another context (external validity), 3) auditability (reliability) or testing for consistency by a second evaluator, and 4) confirmability of the data (objectivity).

Although researchers vary in the terms they use, they agree that adequate procedures exist to assure the quality of the research and the findings. The following briefly discusses some of the strategies suggested by Miles and Huberman (1984), LeCompte and Goetz (1982), and Guba and Lincoln (1981) which were used in this study to achieve credibility and confirmability. Triangulation involves cross-checking data and interpretations by drawing upon different data sources, methods, and perspectives. This study used three different data gathering techniques, involved multiple facets of the process, and drew upon a variety of theories. Prolonged and repeated observations reduce researcher effect and identify typical as well as atypical characteristics. In this case, data gathering extended over 19 months with repeated and frequent contacts with some members and a sampling of contacts with many throughout the study. This goes along with representativeness, in which the researcher strives to investigate the widest range and diversity of events and people possible within the study. This is why an emphasis was placed on the four levels of implementation along with enough people at each level to obtain a variety of perspectives. Member checks and peer debriefing are two methods which entail asking others if the data are accurate and if the interpretations are plausible. Routine member checks for each participant were not conducted because of the logistics and expense involved with repeated contact with individuals over the state and nation; however, repeated checks were made throughout the study with a variety of members and random checks with others. Peer debriefing throughout the study with other graduate students as well as with colleagues in the field proved useful in testing data and formulating interpretations.

In discussing the applicability (generalizability) of a study, Guba and Lincoln (1981) suggest that the naturalistic researcher is concerned with how well propositions from one study fit into the context of another. To facilitate this process, they propose the use of "thick description" which depicts in detail and depth all elements of the context in a way that allows a reader to then determine the "fit" with another context. Eisner (1981) agrees in stating that the researcher's task is to make "the particular vivid so that its qualities can be experienced and because he believes that the particular has a contribution to make to the comprehension of what is general" (p. 7). This first entails the collection of rich, thick data and then the reporting of that data in a form which meaningfully brings it to life for the reader who can in turn make generalizations to other contexts.

Finally, pertaining to consistency, LeCompte and Goetz (1982) offer this caution: "Because of factors such as the uniqueness or complexity of phenomena and the individualistic and personalistic nature of the ethnographic process, ethnographic research may approach rather than attain external reliability" (p. 37). They believe that researchers will come closest to achieving reliability by explicitly describing the researcher's role and status within the study group, the informants providing the data, the research setting, the theoretical premises and constructs that inform and shape the study, and the methods for data collection and analysis (pp.37-40). Similarly, Miles and Huberman (1984) support the practice of "describing one's procedures clearly enough so that others can reconstruct them and, further down the line, corroborate them and do secondary analysis" (p. 244). Guba and Lincoln (1981) using the metaphor of an "audit," emphasize the necessity of the researcher documenting the decision trail (i.e., the audit trial) so that a second researcher has a record upon which to base the audit which includes "the nature of each decision, the data upon which it is based, and the reasoning that entered into it" (p.122). In this study, notes and memos during data collection and analysis provide the decision trail necessary to establish consistency.

Summary

In order to investigate curriculum implementation as exemplified by Project WILD in one state, naturalistic research methods were used to trace the complex processes from the national level to the classroom use of the materials. Permission to conduct the research was initially granted at the state level. Individuals at the various levels were then asked to participate based upon the criteria of representativeness and diversity. Data were gathered through the use of participant observation, interviewing and documentation and was analyzed through strategies selected to assure rigor and trustworthiness.

CHAPTER IV

DEVELOPMENT AND IMPLEMENTATION AT THE NATIONAL LEVEL

As discussed in Chapter III, events comprising the implementation of Project WILD flow through four levels of the process: national, state, local and educator (see Table 6). The boundaries between and among these levels do not exist as concretely as the illustration depicts. Some events do, in fact, only occur at a specific level with little or no further impact. Most, however, significantly influence events at other levels. Some initiate other events or sequences of events which otherwise would not occur. Some result in an interactive overlap between levels. Visual and verbal representations fail to fully convey the complexity of this process. With this in mind and for ease of discussion, the presentation and analysis of data for this study will be organized in four chapters according to the four levels of events. This chapter presents an overview of the 10 national leaders who participated in the study, traces the roots of implementation in the history of the program and its development, describes the implementation process from the national perspective, and discusses the national findings.

Overview of National Level Participants

Ten individuals who represented the national perspective were interviewed. While all but one have been directly involved with Project WILD, they entered the process at different points. Some brought historical perspective, several were instrumental in the conceptualization and funding of the program, most were involved in the development and all have actively participated in the implementation.

At the time of the study, one served as the director for Project WILD, six served as members of the Project WILD Steering Committee, one was a former steering committee member, one was an ad hoc advisor and one served as the director of Project Learning Tree. All but the director held other full-time positions, serving at the national level for Project WILD in a volunteer capacity. Four worked for state fish and wildlife agencies in the area of education, information and public relations (three as the head of their program); two directed environmental education programs; two worked for state departments of education (responsible for environmental education); and one was an administrator for a school district (responsible for environmental education).

In addition, three served as the Project WILD coordinator for their state. Nine were members of the Western Regional Environmental Educational Council (WREEC), two as non-voting associate members. Two represented the Western Association for Fish and Wildlife Agencies (WAFWA). Most had served or were serving on the Project WILD national steering committee, which was comprised of two representatives from WREEC, two from WAFWA, and three at-large members. The treasurer and director served as ex-officio members. Only two people lived in the same state, leaving an overall representation of seven western states (i.e., WREEC states) and two non-western states.

In terms of educational background, one had a Bachelor's degree, seven had Master's degrees, and one had a doctorate as the highest degree earned. As a group, all of their college degrees fell into two major areas of study: natural resources/wildlife management (6 degrees) and education (11 degrees: 4 in science, 3 in curriculum and instruction, 1 each in environmental education, elementary education, social studies, administration). In addition, one person held a combined degree in these two areas, one earned her teaching credentials, and another took education courses but not towards a degree. In terms of overall work experience, approximately half of them had worked for resource agencies, been involved in curriculum development other than Project WILD, taught in the classroom, worked as a naturalist or environmental educator, worked or assisted at the college level, directed environmental education programs, and served as supervisors or administrators for school districts.

In Table 8, some of this information is summarized for each person interviewed. As is customary in qualitative studies, the names of participants are not used in an effort to protect their confidentiality.

Table 8

NATIONAL PARTICIPANTS

Code Number	Relation to Project WILD	Current Position	State Coordinator
N1	SC--Chair WREEC	F&W Agency	Yes
N2	SC--Ex-officio	F&W Agency	Yes
N3	SC--at large	School Dist	
N4	SC--at large	EE Director	
N5	Ad Hoc Adv	Dept. Ed	
N6	SC--WAFWA	F&W Agency	
N7	SC--WAFWA	F&W Agency	Yes
N8	Former SC	Dept. Ed	
N9	Director SC--Ex-officio	EE Director	
N10		EE Director	

(SC = Steering Committee)

Roots of Implementation

The educational change models discussed in Chapter II clearly indicate that implementation does not occur as an isolated process. While implementation officially began in the fall of 1983, its roots reach back to 1970, tapping into areas similar to those described by Rogers as need, research, development and commercialization. The following sections trace the history of the development of Project WILD, showing that the two greatest influences on the implementation were 1) the past history of innovation efforts and 2) implementation as part of the development process. One person recalls:

> The implementation process started before the materials were completed which I think is essential...programs like this have a number of elements that have to start at the same time. The emphasis may not be at that time. For example, implementation and dissemination kinds of planning have to occur right when the program starts....[Project WILD] started way back then in terms of plans and it was based a lot on the success we had with Learning Tree and the "six hour workshop." (N5)

WESTERN REGIONAL ENVIRONMENTAL EDUCATION COUNCIL

How did Project WILD first get started? In response to this question, several people interviewed began back in 1970 with the founding of WREEC. A need was felt for coordinating conservation and environmental education efforts on a regional basis. One of the founding members who worked for a state department of education stated:

> ...in working in the state...it occurred to me that people in other states were doing similar things....I noticed that the impetus for conservation and environmental education seems to come from resource management. It is not a big priority for education people but it certainly is something that the resource management agencies want. (N8)

Rudy Schafer, who worked for the California Department of Education as the coordinator for environmental education, wrote a grant proposal to the U.S. Department of Health, Education and Welfare, Office of Environmental Education which was funded for $135,000 and administered through the California Department of Education. Through these monies, one representative responsible for environmental education in the state department of education in each of 13 western states and one representative with similar responsibilities from the resource agencies in these states joined together to form a regional organization of 26 members committed to cooperative efforts for improving education. This group was called the Western Regional Environmental Education Council (WREEC). While common interest brought the two groups together, dissimilarities could not be ignored. The simple task of getting to know each other was not so simple, as indicated below:

> The first few years of WREEC's existence found the members focusing mainly on learning how to talk with each other. People from state wildlife agencies and state parks departments with an

> interest in education were learning the vocabulary of importance to state department of education folks, and vice versa. We're told that in those early days there was some serious question as to whether people were talking the same language at all. (Habitrends, Vol. 2, No. 1)

This marriage between educators and resource people, led eventually to the creation of Project WILD, but only after and probably because of the creation of its predecessor and sibling, Project Learning Tree. The director explained:

> [It] took a while to have that grounding and bonding take place....What really helps is to have a real task, a real project to work on together. (N9)

PROJECT LEARNING TREE

Two of the members of WREEC who were particularly influential in the development and implementation of Project Learning Tree were David Kennedy, who was responsible for environmental education in the state Department of Education in the state of Washington, and Rudy Schafer. Washington had developed a program called Energy and Man's Environment in 1972.

> EME...was attractive enough...to look more closely at and say that we...wanted a program that would help teachers teach about trees and forests....We went to the American Forest Institute and got the money...and built Project Learning Tree. (N5)

In 1973 The American Forest Institute awarded WREEC a grant to develop Project Learning Tree. This task not only resulted in the bonding of the educators and resource people together in WREEC and the production and implementation of an awarding winning program but also in the development of a model and a philosophy that served as the foundation for Project WILD. Two people described what happened:

> ...We developed our model at that point. We would first of all get resource management people, educators, various

> conservationists, whatever, and we would work with them to develop a body of content of what we wanted the kids to know...had this checked and doubled checked...revised and reviewed....We had writing conferences....We brought in classroom teachers and others....These were tested with teachers and finally we ended up with the ones that we thought were worthwhile and that became our material. (N8)

> ...They were real clear what it was about--you are talking about improving education....It is for educators, by educators, by educators' rules....No one can come in thinking that it is going to be anything other than a broad based, open, balanced and fair approach to the process of education....The industry wouldn't have known all of that but because they came to WREEC, they were influenced by WREEC's perspective....It was a model partnership involving private industry and educational effort. (N9)

In this way Project Learning Tree was developed and officially became available in 1976 in the WREEC states and shortly afterwards to other states through an implementation model which also became the foundation for Project WILD's implementation. The American Forest Institute (AFI) provided the funding for this process.

Project Learning Tree was implemented on a state by state basis under the direction of AFI and its education director, the Project Learning Tree Planning and Advisory Council, and the project director with the aid of her staff. Since the director of Project WILD is the former director of PLT, an effort was made in the interview to determine why and how decisions regarding PLT's implementation were made. Responses to this line of inquiry were characterized by the following words: "it made sense," "lots of experience," "synchrony," "a number of people thinking similarly," "WREEC was probably the catalyst," "just from watching PLT," "the trainer of trainer models around the country." Another person responded:

> Probably the PLT steering committee/planning and advisory council pushed that the hardest....We were looking at all the various options in terms of dissemination of Learning Tree and we decided

> that the best possible options at that time--given dollars and time and other commitments--was to train those teachers to use it. (N5)

It appears that implementation decisions were not made by one or two key people at the very beginning of the process but were made and evolved based upon the combined input of a number of people experienced primarily in education. The following briefly outlines the implementation procedures for PLT and how they evolved.

To begin, the department of education people in WREEC were asked to serve as the coordinators for PLT in their states. This decision focused on educational credibility. The two PLT directors explained:

> The PLT planning and advisory council felt that the program needed to be received by the education community and promoted and supported by the education community or they wouldn't make it....a conscious effort to maintain a distance from industry and from the state forestry agencies. (N10)
>
> [Since PLT had industry funding,] people would be very skeptical of it if it did not have a strong foot in the ground in the department of education. (N9)
>
> ....This was a program for teachers of kindergarten to high school kids so I think it was just almost not questioned that the coordinator [would be the person in the department of education]. (N9)

At the 1976 WREEC meeting in San Francisco, coordinators were asked for and individually interviewed about their state implementation plans--how were they going to go about implementing this program in their individual states. The advisory council policy was that activity guides could not just be given away. Teachers had to attend a workshop in order to receive the books. One of the founders of PLT summarized the philosophy behind this decision:

> Our sense was that if we wanted to ensure that the sponsors and people involved were getting the best return on the investments so to speak...then you had to train them and you had to make some things stick in the sense that you just couldn't mail the books out. You couldn't lecture to them and hand them the books. You had to have another process that involved them in a much more deeper and personal way and that tends to make a difference in the response that the teacher continues the program. (N5)

While the director had full responsibility for implementing the program, limitations of time and money prevented the staff from conducting workshops in all thirteen of the states. Consequently, a leadership workshop approach evolved, based upon models which began in Oregon and Utah. The director recalled:

> [the model] was intended to be a way to assist teachers in their own professional development as well as an effective and efficient multiplier effect. (N9)

> We did want a state-wide approach of some kind. It wasn't formally written down, but we would always say, "What is the best way to make it work for you?" The only policy that the Learning Tree committee laid done was that a workshop was about 6-8 hours in length. We had some guidelines that we evolved with the advisory committee...6-8 hours, the history of PLT, goals, objectives, a variety of activities, and some evaluation....And then beyond that, as I said, we would work with the coordinator and we would say, "It might be a good idea to have a state advisory committee....It would be a good idea to have a plan." (N9)

In summary, the implementation model of PLT became known for its use of a state coordinator in the department of education, a state implementation plan, a state advisory committee, leadership workshops, and teacher workshops.

CONCEPTUALIZATION OF PROJECT WILD

Perhaps the earliest idea for Project WILD began with PLT. To a certain extent, PLT was developed out of opportunity--AFI was willing to fund a forestry-related program--as well as need. But WREEC felt additional needs according to one of its members:

> Some of us who were involved with WREEC looked at how PLT had been successful and felt that basically if PLT could be successful so could something on a national level about wildlife, using the same developmental and implementation model. (N1)

If PLT served as a kind of tap root for Project WILD, a parallel tap root began in the Western Association for Fish and WIldlife Agencies. A need existed. The organization representatives stated:

> ...The Western Directors had for a long time talked about doing some sort of an education program because for so many years they gave lip service to the idea that education is very important to the future of their departments. (N6)
>
> [The Education Committee] got the idea that we needed to have some educational materials that were really universal, that all the states could use--some generic-type stuff so we weren't continually reinventing the wheel....We looked around for an example...and found Bob Hernbrode's first interdisciplinary environmental material.... (N7)

While working for the Arizona Game and Fish Department, Bob Hernbrode developed the "Arizona Wildlife Teacher's Guide." In 1977, at the Western Association's annual meeting in Arizona, he made a presentation of his book to the committee which, in turn, passed a resolution to adopt the guide as a model for a conservation education program common to the association's states.

Little happened until their next annual meeting in 1978 in San Diego when the Conservation Education Committee passed another resolution, building on the first. It expressed the need for a common conservation education plan or outline, the need for funding to mass produce individualized plans, and the need for a method to integrate the programs within the educational systems of the western states.

In 1979, WREEC held its annual meeting in Jackson Hole, Wyoming, immediately following the PLT national coordinators' conference. PLT was well established but funding for it was running low. WREEC was looking for a project, a purpose. It was interested in wildlife. The Western Association had passed its resolution. Through cross-membership in these two groups, people became aware of the mutual interests and "floundering," as recalled here:

> It sort of fell in place...got the idea that it would be great to meld the two groups. (N7)
>
> ...Those two pieces clicked together: a) we [WREEC] know how, b) we would like to do it because many of us in WREEC were fish and wildlife people, too, and c) this other organization [WAFWA] came to the same exact state as WREEC. (N2)

Within two months, a subcommittee comprised of Cliff Hamilton, Dolores Moulton Larson, Bob Hernbrode and Ray Remund produced a proposal from WREEC to the Western Association for Project WILD--Wildlife in Learning Design. In July, three of those people (all but Ray) took that proposal to the Western Association's meeting in Alaska.

> The three of us spent all five days of that meeting lobbying directors and anybody who would listen to us....They passed this resolution....Here we were with a proposal on how to do it, how to budget and how to get it into the schools and an example of Project Learning Tree. (N2)
>
> ...Between us we worked on those folks for about a week--in the bar and in the meeting rooms and committees, anywhere we could corner somebody. And by the time we got ready to leave, they had committed themselves to doing a program...raising $135,000 to do it. (N4)

The roots of Project WILD's implementation are visible and concrete within this development proposal as illustrated through the following quotes (bold print has been added for emphasis):

> The Western Regional Environmental Education Council proposes the development, production, **introduction, and distribution** of a curriculum supplement package in the style of Project Learning Tree. Its focus, of course, will be wildlife. Development of the activity guide would use the Arizona Wildlife Teacher's Guide as a model. (p. 2-3)

> It is not wise nor desirable to produce materials designed to displace the curriculum which now exists. Enhancement and extension of the curriculum _is_ desirable. Thus, the activity oriented, curriculum supplement approach has proven most successful in **introducing non-traditional subjects to teachers** and **classrooms**. Materials must be **acceptable**, reflect the **best** educational techniques and philosophies and be of **high quality**. They must also be **accurate** and **balanced** in the wildlife information presented. WREEC...is uniquely capable of merging wildlife knowledge and educational methods. (p. 3)
>
> To begin this project a **steering committee** of Western Association and WREEC members must be assembled. The committee **will direct** the project from conceptual framework to **introduction in the schools**. (p. 3)
>
> **Introduction** of the curriculum guides into the school systems of the west is **another process separate** from the three year development phase and perhaps funded through different methods, too. (p. 4)
>
> WREEC proposes an alliance with the Western Association to accomplish development and **introduction** of just such materials. Time frame from selection of the steering committee to completion of the guides would be approximately three years. This **may seem like a long time**, but it is necessary to insure a quality program and make it readily acceptable by the education community. (p. 5)
>
> It is doubtful that the Western Association has the means within itself to independently accomplish the goals of its 1978 conservation education resolution. WREEC has the technical expertise, the experience and the **delivery mechanism**. (p. 5)
>
> Year 4 Year 5 Year 6...
> Introduction
>
> One of the major differences between materials that are used and those that are not is the introduction process. Educators recognize the necessity of providing an introduction that includes techniques on using the material, philosophies of the program, and its relationship to the rest of the curriculum. **This phase is as important as the development of good and useful activities in the guide itself.** Under no circumstance should the guide be "just handed out". (last page)

Figure 6 outlines the proposed three year development phase, as visualized at that time, and the second phase of "introduction".

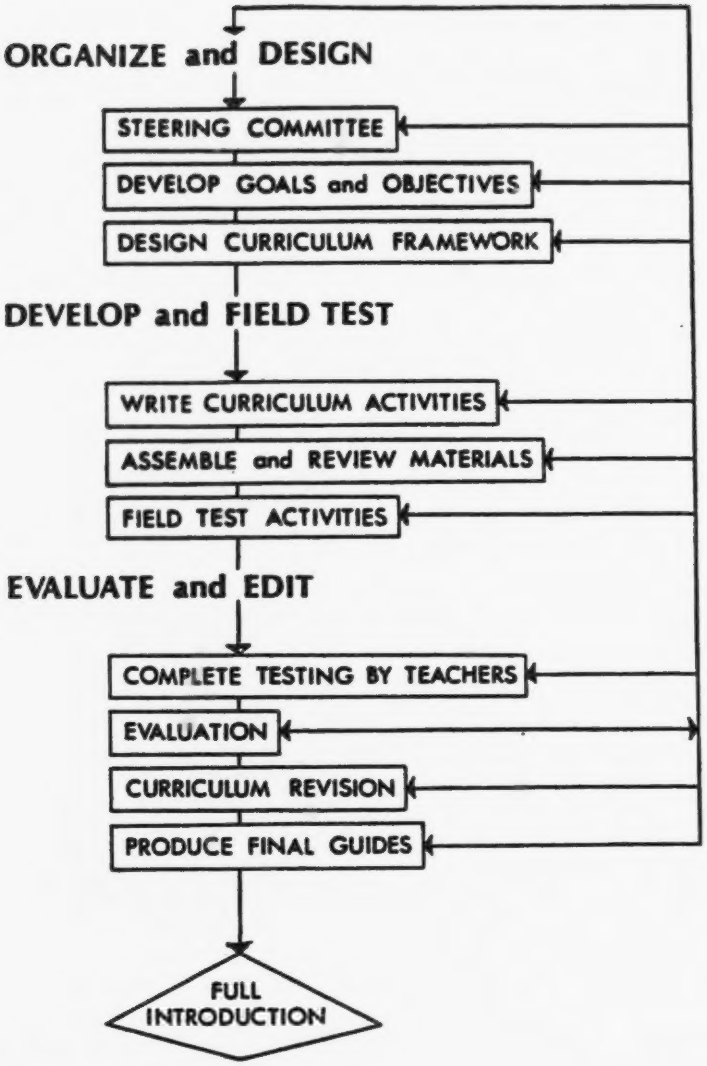

ORGANIZE and DESIGN
STEERING COMMITTEE
DEVELOP GOALS and OBJECTIVES
DESIGN CURRICULUM FRAMEWORK
DEVELOP and FIELD TEST
WRITE CURRICULUM ACTIVITIES
ASSEMBLE and REVIEW MATERIALS
FIELD TEST ACTIVITIES
EVALUATE and EDIT
COMPLETE TESTING BY TEACHERS
EVALUATION
CURRICULUM REVISION
PRODUCE FINAL GUIDES
FULL INTRODUCTION

Figure 6

DEVELOPMENT PROPOSAL

A major theme through this development proposal was "introduction" which was more specifically spelled out on page five and the last page as "training workshops for agency personnel" and "introductory workshops for teachers." Messages about implementation inherent in this proposal include:

--While a separate phase, implementation begins with development.

--The nature of the materials is of important consideration (e.g., fit with existing curriculum for ease of implementation, acceptable by teachers, employ best techniques, high quality, accurate and balanced).

--Implementation builds upon past successes and expertise.

--Implementation requires organization and leadership.

--Materials should be introduced through workshops rather than sold or distributed.

--Implementation, as with development, takes time.

While the Western Association voted to proceed with this proposal, individual states were not bound by the vote to pay the $10,500 over a three year period in order to meet the $135,000 budget. This required more time, as one person recalled:

> What we weren't smart enough to understand was that it took some time to convince them that we were the right ones to do it....It took me at least six months to get letters of commitment from all the states at that point. (N2)

It was not until the 1980 annual meeting of the Western Association that they voted to authorize a contract between WAFWA and WREEC to produce the materials. This represented a milestone for WAFWA because the member agencies had never before cooperatively funded a project, as indicated here:

> ...unique because they had never put money into anything together. They had never spent any money as an organization and were terrified by that thought. (N4)

The contract provided for a steering committee which was comprised of seven members--two representatives from each of the organizations and three members-at-large. According to the contract, the steering committee had the responsibility to develop a means of implementing Project WILD.

THE ACTUAL DEVELOPMENT

Up to this point, development and implementation were still just conceptions, but in the fall of 1980 in Portland Oregon, WREEC held a full meeting at which time the actual development of Project WILD began as follows:

> The same procedure was followed, however, we did have the benefit of having done PLT prior to that so we were able to do it in a little sharper way...framework...writing conference. (N8)

The director of PLT at that time was asked to come as a curriculum consultant to help get things started. The first tasks were described:

> ...I was giving them a primer of curriculum development--rationale, goals, objectives....We hammered the goal statement at that particular meeting before the project was even started. And then we were working with Hernbrode's very instrumental help on the conceptual framework....The WREEC membership literally did the first round of writing on the conceptual framework. And so again you are looking at educators and wildlife developers primarily. (N9)

> The first major task was to develop a content outline or framework which would serve as a road map and check list for the development of the curriculum materials....The outline was drafted and re-drafted many times before there was agreement that all bases had been covered. The draft version was circulated widely among conservationists, preservationists, wildlife professionals, educators and others and all comments were used in further refining and polishing the final version. (N8)

> We know that more than 500 people reviewed that conceptual framework....Cliff deserves so much credit for hearing and sifting and sorting and trying to make sure that ideas were treated equitably and that it was a fair and balanced approach. (N9)

By January of 1981, the director of PLT was hired to also direct Project WILD. Her major responsibility was to coordinate and manage the development of the materials through all phases of the process--writing conferences, draft materials, review, pilot testing, revision, field testing, and final draft. All but three of the national leaders who were interviewed were actively involved in one or more of these phases.

With the assistance of the steering committee and others, the director conducted five writing workshops (AZ, CO, CA, AL, ID). Underlying the process was a belief in the value of teachers actively participating in the curriculum development process and the need for balanced perspective. Several participants commented on the role of the teachers:

> The majority of the participants were always teachers and some people with diverse wildlife backgrounds....What we were looking for was outstanding teachers who could look at a set of generalizations, the conceptual framework, really, and you could say to them,"What is the single best way you can think of to get this idea across to kids?". That was the charge. (N9)

> One of the basic principles in developing effective curriculum materials is to involve good classroom teachers in every phase of the process....Teachers wrote learning activities which they felt would help youngsters gain the knowledge and understandings called for in the framework. (N8)

> It would vary a little bit but they had somewhere around 20-25 participants per workshop and...there was a cross-section of people. We had teachers, resource agency people, folks representing private conservation organizations....[The director], of course, went to them all. It was her task as the part-time coordinator and director of the project to set up those workshops and to essentially conduct them. (N2)

> The steering Committee made that decision at the very beginning that [teachers] would be involved at the grassroots level so that we would be involving them--not doing something for them...leads to credibility. (N6)

These workshops yielded hundreds of activities which varied in approach, quality and completion. The director sorted and sifted, edited and rewrote, deleted and added. She worked against the conceptual framework, filling in gaps to assure coverage of all ideas. She looked for activities that taught all the major skills and subject areas and utilized a variety of teaching and learning styles. Her own knowledge, experience and intuition as well as input from members of the steering committee and reviewers representing a range of perspectives resulted in the selection and polishing of a set of activities which were pilot tested in 1981-2.

While development continued, implementation remained a central concern and was a major topic of discussion at the WREEC meeting in the spring of 1982. An implementation proposal was prepared. At the annual meeting of the Western Association held in Las Vegas in July 1982, WREEC and the Project WILD steering committee faced two tasks. First, they had to alleviate concerns about the nature of the program as expressed below:

> There was a great deal of suspicion about Project WILD and what exactly it was going to say about grizzly bears in Montana...coyotes...hunting.... (N2)
>
> ...We made it very explicit from the beginning that this would not be a pro-hunting piece of material...it would not be anti either. We would go right down the middle....But they couldn't understand some of those kinds of things....A year later they were really scared. They wondered what the heck they had bought. They didn't know what we were going to produce....We had to go to Las Vegas and hold their hands and retalk the thing and tell them that they had done something wonderful instead of something terrible and keep them going. (N4)
>
> Inquisition is about the best word that I can use--that describes the atmosphere at that point...starting to get some activities out...a conceptual framework....Some of their suspicions were being confirmed that it wasn't something that actively promoted

> wildlife management and what the heck were they paying all this money for....It took a long time to simply consistently and regularly show them that a) we were professionals who knew what we were doing and b) we were providing [quality educational materials that even though they didn't] spout the party line [would] do them more good than anything possibly could because the party line was a sure way to get no ticket at all to the schools...[It was essential to] recognize what is the realm of the possible in terms of getting non-traditional materials into schools. We hammered on them steadily that it cannot be promotional material, biased materials, pitching some kind of point of view. (N2)

Their second task involved convincing the Western Association to fund the implementation proposal which would in essence provide for the continuation of the steering committee at a cost of $12,000 per year ($1,000 per state per year over a three year period). The proposal reinforced the ideas planted in the development proposal. It again mentioned the 1978 resolution, indicating that the program development was meeting the first need (a common conservation education plan) and that this phase would meet the other two needs (mass produce individualized plans and method to integrate). The proposal discussed four items--implementation guidelines, steering committee, initial leadership workshop, and printing the materials.

The section on the guidelines discussed three basic requirements for program implementation and maintenance in the states.

> 1) IDENTIFICATION OF A STATE COORDINATOR--A project WILD coordinator within each individual state should be identified to oversee the project. For maximum benefit, this position should be in the state wildlife agency, although it could be in the state department of education or a related agency....
> 2) SELECTION OF A PLANNING AND ADVISORY COMMITTEE--Each state Project WILD coordinator should set up a state-level committee to assist with implementation and maintenance of the project. The committee should include representatives from the public school system, state department of education, state resource agencies, federal resource agencies, teacher institutions, private conservation organizations and private industry. This committee will provide ideas, methods and avenues for broad-based use of the project materials.

> 3) DEVELOPMENT OF A STATE IMPLEMENTATION PLAN--Each state should develop a plan for implementing Project WILD under the specific conditions that exist in that state. It should be long-ranged with a recommended three year minimum length. The plan should be developed by the state project coordinator and advisory committee and include the basic elements necessary to put Project WILD in operation and then ensure its continued use. (pp. 3-4)

The guideline section specifically outlined components of a plan (e.g., roles and responsibilities of coordinator, selection of committee, projections and schedules, communication). In addition, it specified that the implementation process would require the use of a workshop format as the primary means of introducing the materials to teachers because experience indicated that this approach helps to ensure the actual use of the materials. Exceptions would not be encouraged but could occur under limited circumstances outlined in the state plan. Table 9 lists Project WILD workshop guidelines which were included in the proposal.

The proposal also indicated that the first workshop in each state typically would be a facilitator or leadership workshop which would prepare agency people and other key individuals in how to use the materials and how to conduct teacher workshops in local areas of the state. According to the guidelines, the state plan should describe how these workshops would spread across the state. In addition, other items it should address included newsletters, other types of workshops, correlation of the program with state mandates, publicity, teacher education programs, involvement of conservation organizations, and budgeting. Figure 7 illustrates this implementation process. These represent the same basic components used in the implementation of Project Learning Tree.

Table 9

WORKSHOP GUIDELINES

Minimum length:	6 hours--teacher training 12 hours--facilitator training
Activities:	Minimum of five Project WILD activities must be experienced by each workshop participant.
Techniques:	A variety of teaching styles should be demonstrated, such as hands-on craft or art, outdoor experience, discussion, etc.
Overview:	An explanation about the purpose of the materials, philosophy of the program, structure of the materials, teaching strategies, and the program's multidisciplinary approach should be presented. Background information about those responsible for Project WILD (the Western Association and WREEC) and the nature of its implementation and sponsorship at the state level should be included.
Evaluation:	A means of obtaining feedback from workshop participants should be developed for the purpose of evaluating the Project WILD materials, the effectiveness of the workshops, and compiling data on the numbers of participants, etc.

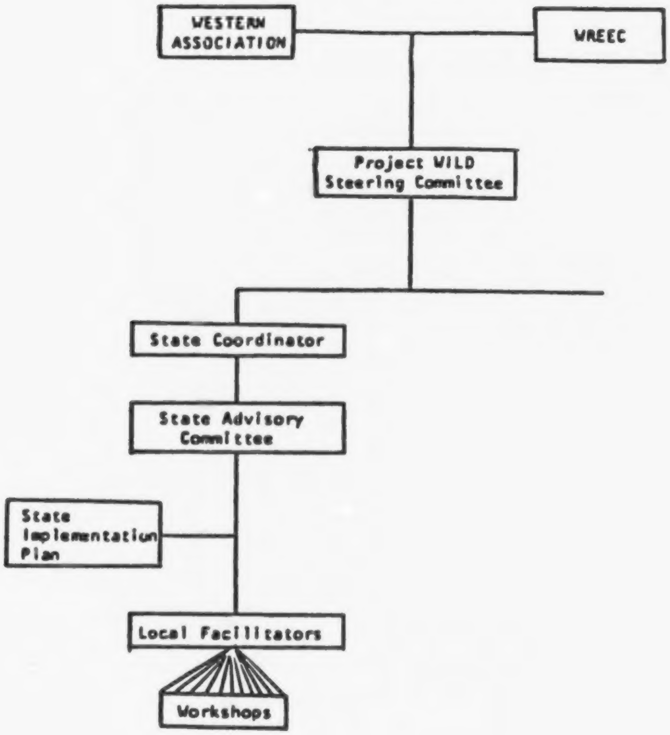

WESTERN ASSOCIATION
WREEC
Project WILD Steering Committee
State Coordinator
State Advisory Committee
State Implementation Plan
Local Facilitators
Workshops

Figure 7

IMPLEMENTATION PROPOSAL

The other three parts of the proposal provided for the continuation of the joint steering committee; for an initial leadership workshop to prepare the core leaders for each of the western states in the use, philosophy, and implementation of the program as well as to assist state coordinators in the development of their state plans; and for central printing of the activity guides.

The Western Association voted to fund the proposal and an implementation contract was signed in February, 1983. The developmental phase of the program ended with the completion of the comprehensive field testing and evaluation of the program (see Chapter I, p. 14-15) and the revisions of the materials based upon that study. The program was ready for implementation in the fall of 1983.

Implementation at the National Level

THE BEGINNING

In the fall of 1983 when implementation officially began, approximately 20 states (12 western) were ready to initiate implementation. This interest, however, was not the result of a major, organized promotional effort as indicated in these quotes:

> What we did, in effect, was that we built a clientele, we built an audience while we were building the product. So many people knew about it and so many people were interested that when we actually had the materials ready to go, people were waiting in line. (N8)
>
> Mostly word of mouth. From 1981-83 my major concern was getting it developed. The people around the country started hearing about it. Then, whenever anybody called us or wrote, we would respond but we didn't ever go seeking other states at that time to get involved...They just heard about it by word of mouth. So by responding to initiative from the states, other states asked if they might get involved. (N9)

In December, 1981, this interest prompted the steering committee to create additional categories of participation--associate organizational sponsor ($10,500), associate state sponsor ($7,000), and contributor. The first mass mailing about the program sent out by the director came about as the result of another grant. More funding was needed to help with the final production of the materials (e.g., graphics, layout). The International Association of Fish and Wildlife agencies provided $20,000, specifying that three copies of the guides be sent to all fish and wildlife agencies whether they were participating already in WILD or not. These were sent with a cover letter describing the program and the different categories of sponsorship.

When associate state sponsors bought into the program, they were provided assistance from a Project WILD training team to help conduct an initial leadership workshop in the state. While the implementation proposal called for a leadership workshop for the 13 western states, funding specifically for this was not allocated; therefore, it was held in conjunction with a WREEC meeting which the state coordinators would already be attending. The director described this event:

> We had a kickoff conference for the implementation of WILD in Oakland in August of '83 and at that time we only had Xeroxes of the nearly final material....It had many more of the characteristics of a conference than a get-in-there, hands-on workshop. This conference was for the 13 western states. We invited other states to come....People shared their state plans. They talked about how they were going to go about it....That was the official kickoff of implementation. (N9)

These people then went back to their states to implement their individual state plans, usually by way of a leadership workshop. New states find out about the specifics of implementation from materials which the director sends to them--a copy of the implementation proposal which included the guidelines, sample contract with WREEC, sample forms and workshop handbooks.

PROGRAM MANAGEMENT AND MAINTENANCE

The responsibility for carrying out the policies of the steering committee and coordinating Project WILD at the national level rests with the director. Specific duties are spelled out in yearly contracts. Some of these are on-going while others are one-time or periodic projects. Between 1983 and 1985, some of the director's responsibilities included: coordinating and assisting with state leadership workshops; overseeing the computer record-keeping system for participant survey forms; reviewing and commenting on state plans; serving as a clearinghouse for information and requests about the program; coordinating the revisions of the guides; preparing a biannual newsletter and annual report; providing assistance to states and sponsors; developing and revising materials (handbook for state coordinators, workshop handbook, promotional booklet, poster); writing articles and giving presentations; developing funding proposals; conducting a national survey of use; and coordinating and conducting annual coordinators conference.

All of these tasks directly or indirectly assisted in the implementation of Project WILD in the states. For example, the newsletter "Habitrends" provided information to coordinators for their own use or which could be reprinted in state newsletters or other communications. Topics included use of the materials and activities (e.g., accounts by classroom teachers, methods of integration by school districts, adaptations of activities, sequencing of activities to teach certain concepts across grade levels, use with bilingual students); updates on WILD (e.g., awards and recognitions, reports, journal articles on WILD, controversy, new WILD states); workshop strategies (e.g., ways to introduce ideas or conduct sessions, follow-up ideas); educational issues and trends (e.g., science and society, thinking skills, controversy in the classroom, current research, law-related education), and resources (e.g., children's book, trade books, AV materials, sources for materials such as owl pellets).

During 1985, coordinators received an average of one memo/communication per month from the director, often in the form of a packet of materials covering a variety of topics. An analysis of 11 of these indicates the range and frequency of topics covered by these communications. During that year, the controversy pertaining to Project WILD (discussed under "1985 Implementation") received the greatest coverage in the form of information within the memos, copies of letters written by others, and reprints of various articles. Almost equal to this was information, forms, and reports about the annual coordinator's conference held in Seattle in May and information about the progress on and printing of the 1985 revisions to the guides. Additional topics covered once or twice included awards, new sponsors, journal articles, Habitrends, the 1986 conference, regional coordination, annual report, aquatic supplement, central printing services, and legislation. The purpose of these communications appears to be more that of informational exchange than "how to" ideas for implementing Project WILD.

The latter came some from Habitrends but mostly from the annual coordinators conference. The two and a half day conference employed large and small group discussions, presentations, panel discussions, media sessions and work sessions to explore a variety of topics of interest and concern to coordinators as identified through a pre-conference survey. General topics included needs and possibilities for additional materials (e.g., student and teacher materials, video, aquatic supplement), the WILD controversy (perspectives and strategies for dealing with it), workshop strategies (especially for secondary level), infusing WILD into the existing curriculum, communication, evaluation and record keeping, workshop follow-up, using WILD and PLT together, policies and procedures, maintaining quality control, and future goals. What these agenda topics did not reveal was the primary purpose or the overriding theme of the conferences--this was a time for sharing, getting to know each other, building support systems and networks, having fun, airing frustration, and telling success stories. It was a people time because, as stated in the introductory materials, "Project WILD is people." The researcher's field notes at the end of each day referred to this aspect.

> I feel rejuvenated by the people, the interaction, the spirit of togetherness, the being here.
>
> The people are very much interested in and willing to learn, share, help.

1984 IMPLEMENTATION

The 1984 annual report summarized program activities from the national perspective. The program was widely accepted as indicated through sponsorship by 31 states and 5 organizations, receipt of national awards, and teacher enthusiasm. From October 1983 to May 1984, 4,000 people participated in 200 workshops, with 80% of those people indicating that "this is one of the best workshops I have ever attended" and nearly 20% more saying that it was "good." The report indicated that the printing order for the next year totaled 80,000 guides for one year. It took PLT 8 years to reach 70,000 participants in workshops.

1985 IMPLEMENTATION

The 1985 annual report capsulized "successes" and "problems" for the year. In terms of numbers, 34 states and 6 organizations sponsored WILD. Compared to the first year, more than twice as many guides were printed during the second year (51,434 elementary and 28,028 secondary). More than 22,000 educators participated in 800 workshops averaging 7 hours in length. Workshops were still rated "excellent" or "good" by 99% of the participants. The same number of people also said that they planned to use the materials. They estimated reaching more than three million students in one year. More than 1400 people were qualified as Project WILD facilitators.

The report also told of totally "WILD" schools, work with Hispanic students, the success of the second annual coordinator's conference, state newsletters springing up, articles in magazines, a trend towards half-time to full-time state coordinators, and awards received by WREEC, the director and state coordinators.

In addition, it discussed "The Project WILD Controversy" which "stems from vocal and visible criticism of Project WILD by animal welfare organizations which describe Project WILD as pro-hunting and pro-trapping propaganda." The logic underlying this stance appeared to concern funding. Since fish and wildlife agencies derive their funding from the sales of hunting, fishing and trapping licenses and since the major funding for Project WILD came from these agencies, then it follows from the critics' perspective that Project WILD must support hunting and trapping.

The animal welfare groups employed several strategies to communicate their concerns about Project WILD. Some of these included coordinating letter writing campaigns, requesting that distribution and use of the guides be discontinued, picketing local workshops, placing ads against Project WILD in newspapers and magazines, submitting a 50 page document of suggested revisions for consideration by the steering committee, and publishing a guide "to fill in the gaps" in Project WILD. The effect of these strategies varied from state to state ranging from no impact at all to temporarily stopping the implementation. For instance, books were impounded in California while public hearings were held. The program was put on hold in New York but reinstated within two weeks.

In communications from the director to humane groups and to coordinators, she emphasized the following: Project WILD is neither "pro" nor "con" on value sensitive issues but dedicated to teachers and students making their own decisions about hunting, the program has been criticized by both pro-hunting and anti-hunting groups, hunting is only one small part of what is included in Project WILD, concerns would be addressed through the already established procedures for revisions, and suggestions for revisions were welcome.

Revisions were made. The steering committee spent hundreds of hours reviewing the decisions. Some humane groups participated in that process by attending steering committee meetings. As organizational sponsors, the American Humane Association and Defenders of Wildlife acted as laisons between the committee and the other humane groups while expressing their own concerns. At the 1985 national conference, the steering committee met in a "fish bowl" session where coordinators and humane groups could observe and participate on a limited basis. The four hour session extended to seven hours and the task was not completed. Discussion was specific. For example, the wording for one phrase was discussed for 45 minutes.

Overall, did the controversy affect the implementation of Project WILD at the national level? The 1985 annual report discusses the fact that time spent offsetting erroneous information and countering misinformation took away from time to develop and provide other kinds of materials and services which could have assisted with implementation. Positive outcomes included more visibility for the program, increased opportunity to stress the importance of wildlife education, and a coalescence of the emerging network of coordinators.

In general, most of the national leaders interviewed felt that the controversy had more of a positive impact than negative--the program was even stronger. Some local areas were affected initially but, when challenged, Project WILD was always supported:

> It hinged upon our openness and our willingness to be examined and our having a structure and process for people to make input. (N9)

> It has certainly expanded the understanding of many of us in education as well as those interested in wildlife as to the range of philosophies and views that are in existence right now...a greater breadth of understanding and that is very positive overall....I still very carefully say and believe that we did not correct materials. We made changes to clarify what was already there. (N9)

> WILD is like mutual funds in a lot of ways. In mutual funds you don't lose your whole investments. You put it in a whole lot of different kinds of small investments and with WILD essentially being vested in 35 states and 6 national organizations now, it is going to be pretty hard to do more than temporarily delay things on a local basis. (N2)

> One of the most frustrating experiences for me, personally, is that those people that we dealt with from the anti-hunting groups did not give us credit for being people capable of recognizing a wide range of values of wildlife....My feeling is that any biases or concepts that may have been excluded from the materials was simply a result of the process....Some of the concerns that came out in the controversy are ones that I now feel are valid but that I was never aware of....We had it reviewed extensively and we thought we had done a good job of it....there are sins of ommission due to ignorance as opposed to pre-determined strategies that you wanted to pursue. (N6)

The annual report ended with a look at the future. Plans were under way to develop aquatic activities to supplement the guides, to produce student materials and to conduct a national user survey. A goal for the year was to involve entire school faculties in an effort to increase the number of "WILD" schools and districts.

SUMMARY

The implementation of Project WILD is characterized by two major themes. The first focuses on the past history of an innovation. WREEC created the opportunity and the climate for cooperation between educators and resource people. Along with this, funding opportunity, need, successful environmental education programs and educational expertise led to the development and implementation of Project Learning Tree--the primary model for Project WILD. This model grew out of the knowledge, wisdom and experience of a variety of people. It evolved and changed over time.

The second theme addresses implementation as a part of development. Drawing upon the foundation laid by PLT and the bonds of WREEC, members of the Western Association and WREEC conceived of Project WILD as a means to provide generic wildlife education materials to western states. Their original development proposal contained implementation as an inherent part of the program. The development process, which involved numerous educators, resource people and other interested parties, resulted in an audience waiting in line. The implementation proposal reflected the influence of PLT in its recommendations for a coordinator, advisory committee and state plan, all of which would support the implementation of the materials through a workshop format. Implementation began in 1983 and was managed and maintained through the assistance of the national steering committee and and the national director. The following section further illuminates this process through a discussion of national insights and perspectives on some of these points.

Additional Insights and Perspectives

Words used throughout the interviews and documents characterized an aspect of this process often not included in discussions and models of curriculum development and implementation--"as luck would have it," "that was a happy accident," "synchrony," "serendipity," "commitment," "perseverance." A small group of people came together--a bit by chance, much by professional dedication--and made a project work. In spite of their insight, forethought, experience, planning and follow-through, it could have been sidetracked or derailed at any number of points along the way. Suppose the "one hand" never did find out that the "other hand" was wrestling with the same concerns. Suppose less committed people had taken the proposal to Alaska. Suppose a group other than WREEC had proposed the project to the Western Association. Suppose the two people ironing out the details on the development contract had lived 1500 miles apart instead of only 15. Suppose the small group had wanted to be paid for all those volunteer hours of work. While part of this reflects an element of fate, part of it reflects an element captured in this quote from the Project WILD introductory booklet:

> **Project WILD is people.** It is people who care about quality education, and people who care about a healthy environment. It is people working together to learn about wildlife and habitat. It is educators, wildlife professionals, and concerned private citizens--willing to transcend individual differences to support a process of educational excellence for young people. (p.8)

Project WILD is people and at the heart of these people was a core group which shaped and molded the program and which set expectations that others strived to reach. In the value judgment of this researcher, their talents, insights, forethought, fortitude, commitment, personalities, integrity, dedication and wisdom must be considered as critical forces which shaped this implementation process. This element of fate and this human dimension cannot be discounted or slighted in the analysis of this process.

Another theme which emerges at the national level is the marriage between educators and resource people. It played an important part in the development of both PLT and Project WILD; yet, the ramifications go beyond the production and implementation of instructional material. To begin, wildlife agencies began to recognize that what they provided was information, not education. It was recognized that typically resource people lacked educational skills; on the other hand, educators lacked wildlife content knowledge. For example:

> Wildlifers knew nothing about education, and I mean that in the broadest terms. They knew nothing about education so we really laid on them that they had to have the assistance of the education sector and I think that has worked out well. (N4)
>
> [In our state] we try to recommend that every workshop have one wildlife facilitator and one educator....There are going to be questions about wildlife that tend to come out of the workshop that the educator may not be comfortable handling and there are questions educationally that the wildlife person is going to have problems in and the educator can address those. (N1)

As a result of this team approach, unanticipated permanent changes occurred in both partners. For instance:

> [The program's implementation strategy] is forcing us professionally in the wildlife agency to take education seriously and to put it as a priority item within our agency. We have been giving it lip service for years and years. Project WILD is changing that around and bringing education up to a higher level within the whole management picture. (N1)
>
> I don't want [the agencies] to revert to information only. I don't think that they will but I do know that WILD is a major catalyst for them getting involved in more education all over the country. (N9)
>
> Project WILD catalyzed some things which weren't there before and nobody could get them funded before. So those are indirect kinds of things that are really part of what WILD has caused to happen. (N2)
>
> I think that is a major change that has happened in this thing--where the educational sector suddenly realizes that wildlife is the best teaching tool that they have. We have made a tremendous impact on education. (N4)

In this way a marriage produced a program which in turn gave back benefits, perhaps unanticipated, which strenghtened the partners individually and together as a unit.

The history of the innovation, as already discussed, emerged as a strong theme. When asked how this implementation approach was arrived at, all those interviewed acknowledged Project Learning Tree using words such as "precedent," "success," "building block," "pioneering work," "professional acceptance," "experience" and "wisdom" to describe what Project WILD learned from PLT. Most of these comments referred to components of the process which were the same between the two programs. But Project WILD, based upon what it learned, differed in two essential ways--home base and funding. While PLT preferred to have the coordinator in the state department of education for "credibility," Project WILD preferred the fish and wildlife agency for its "vested interest" in wildlife education. Comments included:

> One of the strings that Project WILD has that PLT doesn't have is that Project WILD coordinator located in the state agency whose number one job is to implement Project WILD....There is a home base. (N6)
>
> Educators have accepted the role of the wildlife and resource managers as part of the educational process of WILD. I think the WILD folks saw that PLT had paved the way...there wasn't the need to maintain this distance....Part of PLT's problem was that we kept it so distant from the forestry community that they didn't know what it was they were supporting. They didn't know enough about it and know why it was so wonderful....PLT has learned that we need to get people involved who have a vested interest. (N10)
>
> Keeping the coordinator in-house would have many advantages including easier access to--and more likely utilization of--technical wildlife information in project activities, and increased visibility for the agency and its message. (Implementation Proposal, p. 3)

While PLT had a "sugar daddy" which provided all funding for development and implementation, including the cost of printing the activity guides, Project WILD funding came from the individual states. This also provided for a vested interest as explained below:

> PLT was funded by a sugar daddy....Each state, when they became a part of PLT, did not have a vested interest....With Project WILD that wasn't the case. The states had to become a vested interest. They had to look at it and say, "Yes, we need it. Yes, we will pay to get it and if we do that we are much more likely to consider this to be ours." Thus Project WILD had a home. PLT had an awful lot of states but never had a home. (N2)

> If somebody is going to kick up some bucks, then they are going to be interested....If people want something bad enough and are willing to make an effort to get it, they will be more anxious to do it than if somebody just gives it to them. (N8)

In discussing what should be the continuing role of the departments of education and the fish and wildlife agencies, the overall consensus was that the agencies should serve as the primary sponsors or co-sponsors, in a partnership with the departments of educations which should support the program and provide access to the educational system. In addition, one person commented:

> The department of education must provide the technical expertise to maintain the honestly and objectivity and the technical accuracy and thrust and compatibility....Education changes and the thing could get away from [the resource people] if they don't keep in touch with the education people. (N8)

In discussing the overall process, the national leaders were asked to **describe** the process--outline the committee's recommendations for implementing WILD into the states. The most frequently mentioned guideline was the workshop with eight of the people specifically commenting on the required lengths of 6 and 12 hours. Two people mentioned the state coordinator, two the state plan and one the advisory committee. It appears that the national leaders perceived the workshop as the most important element. When questioned about the other guidelines, they used the terms "recommend," "strongly suggest," "encourage," and "supposed to."

In fact, these words point to a major theme in the discussion. The concept of flexibility permeates their comments:

> It is a set of criteria which we as a steering committee have accepted as a policy and all the states when they implement are aware of that. But we encourage the individual states to implement it in a way that is going to work best for them within

> that framework....There is flexibility based on each state but there are some basic criteria that everybody has to follow. (N1)
>
> The concept that I like about the steering committee approach is that it sets some fundamental common denominators of expectation of all the state approved programs, all the state facilitator programs and then they have left a lot of autonomy for those states to decide how to best do it in their context and set their own guidelines...[They] are really the kinds of things that the WILD steering committee has had to do to maintain some kind of quality control. (N3)
>
> We call it the organic model approach. You set the basic elements for what the program needs to survive and then you leave that flexibility for growth. (N3)

The need for flexibility came from a recognition of the differences among the states--population density, geography, funding, support for environmental education, politics, the state coordinator. What worked for California might not, and probably would not, have worked for New Mexico or Alaska. Yet, much commonality existed. It was built into the process. The director explained:

> ...the generic workshop handbook...the guides themselves and the recommended structure of workshops...All that leads to a lot of commonality. I call that the common culture...there is something about variety and autonomy within a common culture. If you understand that common culture, you are probably going to do a better job....And there is that common culture and then there is that enormous encouragement to make the program your own way for your own state. (N9)

Again, in discussing the process as a whole, the leaders were asked which actions or strategies they would rank order as the three most important in assuring the success of the implementation. The workshop, again, received the highest rating with reference to its high quality and the value of the multiplier effect. The Project WILD materials were rated second because of quality, free availability, attractiveness, and ease of use. Direct or indirect support of the agency and flexibility were rated third and fourth.

In discussing the strengths and weaknesses of the implementation strategy, they provided 16 different strengths and 17 different weakness. The most frequently mentioned strengths were "structure with flexibility" and "high quality materials;" maintaining "quality control" and "adherence to guidelines" were cited as the greatest weaknesses.

Would they do anything differently if starting all over again? No. They believed that this process worked based on the demand for the program, gut level feelings, teacher use of the materials, and volunteer support. The nature of the materials were also addressed. Comments included:

> I don't have a big pile of data but that old gut feeling says you are on the right track.... (N2)
>
> There is no question in my mind that it works. I've watched teachers....Within a year or so you see a substantial change in that teacher. I could not document that in anything that you researchers would accept but in my mind I know its there....I've seen them improving themselves as teachers. (N4)
>
> It co-delivers quality environmental education experiences at the same time it is delivering basic science and social studies and language arts...and it does it in a way that models what we call good educational instructional practices. (N3)
>
> There are activities or things that you give teachers that I call a "tunnel." You say you go in here and you go through this part and you come out here....Project WILD is not that way....[It] shows a respect for a teacher and the teacher's wishes, skills, and creativity and builds on that. I think that is one of the critical factors. I think teachers sense this. (N8)

While they all agreed that this was the best process and that it worked, they disagreed on how they would define "success." It raised the issue of where does implementation end--at the workshop, with use by the teacher, in the minds of students or in the students' actions. The national leaders were almost evenly split in their views with some addressing more than one level. Two said it could be measured by numbers of people attending workshops or of books printed but this would only measure quantity not quality of the program. Four looked at use and integration in the classroom with one saying that it would be so well integrated that it would lose its identity as Project WILD. Three talked about it improving education and children learning more; three talked about it making a difference in decisions about wildlife and the environment.

This relates to what they perceived as the goal of Project WILD. Seven people gave responses similar to all or part of the goal printed in the introduction to the guides--helping people to gain knowledge and understanding about wildlife and the environment, resulting in responsible decisions and actions. Two people referred to the fact that people have different goals:

> Everybody involved in Project WILD has their own goal...our goals are maybe as diverse as there are people out there using it or providing it...providing good quality education...providing understanding and visibility for our resource...want a public that will support our program...understand fish and wildlife so they'll let me manage them and won't harass me... (N2)
>
> It depends on who you are looking at...The education section goal is to make education better. The goal of the resource people is to make the resource better. I think we are achieving both of those goals. (N4)

Another person talked about the goal of "pair bonding" or the opportunity for wildlife resource people to meet with teachers and other educators and to let them know what is available to help them teach about wildlife--people and material resources. The national director placed the goals of Project WILD within the larger context of environmental education and the overall process of education by saying:

> ...our focus has always been education about the environment. And I've always considered PLT, WILD or anything else that might come up as simply a small contributor to a much larger problem. For years I've said at workshops that PLT is not the end all, be all. WILD isn't perfect. They are simply programs, resource materials and people in a process of supporting education. (N9)

The national leaders believed that the implementation strategies helped to achieve these goals primarily because they served as the mechanism for putting the materials into the hands of teachers. It was described as a "probability game"--a way to increase the probability that the teacher will want to use it.

And who governed this game? Who were the key decision makers at the different levels? Everyone agreed that at the national level the steering committee made the decisions and determined policies. The project director carried out their decisions and interpreted policies. At the state level, the coordinator made the decisions, sometimes with a steering committee and sometimes in conjunction with other agency personnel. Less agreement existed for the local level. Three believed the teacher made the decisions, two the facilitator, one the principal, and one a person recognized by the district.

Who was the single most important player? The teacher received four responses and the facilitator two.

> [Not the principal or assistant superintendent] WILD falls into the category, all around the country, for the most part, of materials that are not formally reviewed and adopted because they are supplements--teacher resource materials. It's one of the areas where teachers as professionals are given the time and authority to choose. Not like a textbook series. (N9)

> Major professional delivery of this program...is on the shoulders of the classroom teacher. We have essentially transferred the responsibility for educating about wildlife to the classroom teacher....[The facilitators] are brokers, the middlemen, the wholesalers....The credibility for continued operation lies on the facilitators. The actual delivery of the content to the kids--

> where the rubber meets the road--is the teacher. We've got to honor that. (N5)
>
> Curriculum is really what happens when that classroom door closes. Everything is a prologue to that. (N8)
>
> That is like looking at a circle and saying where is the most important point. It takes them all and I think the local level is still the most important one--either the state coordinator providing the workshop leaders and the actual teachers are really important...needs to evolve...to have a future vision...and that requires some of the national level kinds of things....It is a team. (N2)

In addition to people, other factors influenced implementation, positively and negatively, at the different levels. Conditions cited at the national level which had helped implementation included educational trends (particularly emphasis on science education), combined efforts of resource and education people, a need for the program and a concern for environmental quality. At the state level, the major factor was support by the agency for the program along with educational trends and networks of people. At the local level, it was individual enthusiasm and networking spreading the word.

What impeded implementation? At the national level, leaders cited the controversy, lack of money and support, educational movements (e.g., back-to-basics, competency based education) and nothing. At the state level, lack of agency support (wildlife, education, federal) and lack of money both were mentioned by half the people with all other items mentioned only once. Local had little consensus except for too much demand on teachers' time, no room in the curriculum and lack of administrative support.

Finally, an important issue for implementation was longevity--how long would Project WILD be around? The unanimous response--in some form for a long time because Project WILD was a dynamic, adaptive, evolving program. This idea was expressed in several ways:

> The planet changes. Our culture changes. The emphasis, direction. What I like about Project WILD is that I see a great open, very conscious perception of those kinds of problems and not just simply, "We've got a really good book. Let's keep it going." Forethought and adaptation....You might say that WILD is becoming an urban animal--starting to fill a lot of niches and yet maintaining its focus of what it is all about. (N3)
>
> The important thing to recognize is that the people network is more important than the materials. I think that people in two professions have gotten together and found out they can do some important things together and I think that is going to guarantee that Project WILD will be permanent, semi-permanent....It is a network of people. (N8)
>
> WILD has catalyzed a whole lot of things which are institutionalized. (N2)

Keeping the program fresh with new ideas and new looks and ongoing communication were two suggestions of ways to encourage teachers to continue to use the program. The best way to encourage use by the "late adopter" was to institutionalize the program--correlate it with and incorporate it into textbooks, state/district standards, and tests. Incorporating it into preservice teacher education programs was considered an important strategy for influencing new teachers. Leadership for these activities should probably come from the national steering committee and director and from the state coordinators.

Summary and Conclusions

The aim of this section is threefold. First, the chronology of the events in the process at the national level are summarized. Second, the factors which influenced this processed are discussed within a framework which begins to build a model of implementation.

Third, the findings will be reviewed in light of the literature reviewed in Chapter II.

OVERVIEW OF NATIONAL EVENTS

While the implementation of Project WILD officially began in August of 1983, its beginnings were firmly rooted in the work of WREEC, in the development and implementation of Project Learning Tree and other innovations, and in the conceptualization and development of Project WILD. Table 10 summarizes the key events which influenced and were part of this implementation process.

PHASES AND FACTORS

The depiction of these events and the discussion of the overall process provide rich information to contribute to an understanding of implementation. Underlying the story are numerous factors which shape the process. Add a new factor and the shape may change. Remove a factor and the shape may change. Alter the existing factors and the shape may change. In this section, factors which have shaped the implementation of Project WILD at the national level are extracted from this chapter--from the account of the story and the discussion of the process--and are placed within the context of a model which begins to explain their influence on the process and their interactive relationships.

To begin, five overall phases of implementation became apparent: determinants of implementation, initiation and adoption, implementation, incorporation, and outcomes. In this analysis, these phases serve as organizers--file drawers in which the factors are categorized for discussion purposes. Just as filing systems serve a

Table 10

HISTORICAL OVERVIEW FOR NATIONAL LEVEL

1970	WREEC founded
1972	Energy and Man's Environment existed
1973 to 1975	PLT funded by AFI Development began Idea for Project WILD began
1976	PLT began implementation
1977	Resolution passed by WAFWA to use Arizona Teacher's Guide as a model for a conservation education program
1978	Second resolution passed by WAFWA stating three needs
1979	Mutual interests "clicked" at PLT/WREEC meeting Subcommittee appointed to write development proposal to WAFWA for Project WILD WAFWA voted to fund proposal
1980	Development contract signed between WREEC and WAFWA and joint steering committee formed Development began at WREEC meeting
1981	Part-time director hired Materials developed Other categories of participation created
1982	Materials pilot tested and revised (1981-2) Implementation proposal to WAFWA developed
1983	Implementation contract signed between WAFWA and WREEC Materials field tested and revised (1982-3) Kick-off conference held in Oakland Printed materials available
1984	Full-time director hired Program managed and maintained
1985	Program managed and maintained

useful purpose, they also have their limitations. This system will surely reveal its limitations along with its insights into this complex and perplexing process.

The following discusses each of these phases and the factors revealed at the national level which relate to each.

Determinants of Implementation--As suggested in Rogers' model, events preceding implementation shape implementation. To begin, a need existed for cooperation between resource agencies and departments of education and for generic instructional materials related to wildlife and the environment. Historical influences--people, things, and events--included the partnership formed through WREEC and previous innovations which provided models for development and implementation. Developmental influences involve people, things and events which impact upon implementation during development of an innovation. For Project WILD this included fostering the partnership; involving teachers as active participants and contributors; building an audience for the program; producing quality materials; and setting the stage for implementation in terms of strategies, guidelines, timeline, leadership and organization. Implementation depended upon program support through funding, philosophical backing, human resources, assistance and services. In this area, leadership from members of the subcommittees, steering committee, organizations, and agencies as well as from the director shaped the process. Finally, fate and the human element involved the intangible, elusive aspects which worked to support or hinder the more rational and controllable dimensions of the process.

Initiation and Adoption--Whether or not a program is considered and approved for adoption depends upon another set of factors. Availability and appeal of the program could be the first issue if ease of access and high quality represent desirable goals. Adopting agency support includes philosophical backing and resources (e.g., funding, staff, time). National leaders believed that without it, implementation could prove difficult if not impossible. National leaders saw program support, from the national level, and availability of other assistance as a means to compensate for or complement existing avenues of support, tipping the scale in favor of adoption. Finally, community or group support, pressure or opposition could aid, hinder or prevent implementation depending on whether the heads were nodding up and down (already 35 states) or back and forth (pro-hunting or anti-hunting program).

Implementation--The actions undertaken to put into effect programs, policies, and practices are sensitive to the influence of many factors. The nature of the program is critical (e.g., need, complexity, quality, structure, flexibility, supplementary, required, compatibility). The Project WILD materials were considered one of the most important features of the program. The opportunity for or requirement of inservice education and staff development along with the nature and quality of those services (e.g., length, one-shot workshop, follow-up) was believed to affect use of the program. The Project WILD workshop was highly supported by the national participants. Did a partnership exist between the resource people and educators as well as others, and what was the nature of that partnership? Availability and amount of funding as part of agency support was viewed as a reflection of the extent of vested interests. Program support, administrative support, and teacher involvement and enthusiasm all contributed to the foundation of the process. Effective networks and communication were cited as a means to promote the program and assist with its use. Flexibility was used to describe the overall process and was cited as one of the major strengths of the process. Finally, external factors such as national concerns and educational trends enhanced or hindered efforts.

Continuation and Incorporation--The longevity of a program can depend upon ability and willingness to adapt (new ideas, new look), continued follow-up (communication, assistance, second level workshops), and extent of institutionalization (incorporating program into existing curriculum). Participants viewed Project WILD as highly adaptive and indicated signs of institutionalization. Follow-up efforts were evident in memos, conferences and the ready availability of the national staff to help.

Outcomes--While the intended purpose of a program can vary according to the implementer, what is accomplished can be assessed, while not always easily, by looking at numerical achievements (i.e., numbers of participants), changes in teachers (knowledge, skills, attitudes, behavior), and changes in students (knowledge, skills, attitudes, behavior). The national leadership discussed all three but did not arrive at a consensus on which they viewed as the most important.

Figure 8 shows these factors filed under each of the five phases. It represents the beginnings of a model of the implementation of Project WILD, illustrating the flow of the process from development to outcomes and the influential elements which shaped these phases individually and as part of the whole.

DISCUSSION

Chapter II identifies six key points derived from models and research in the fields of curriculum implementation and educational change. These will be discussed here in light of the findings at the national level. One of the main messages from this literature is the importance of the **role of the classroom teacher.** In Project WILD, teachers played a significant role. First, they were instrumental in the development, pilot testing and field testing of the materials. Inherent in this approach is the philosophy that the materials had to be for educators, by educators, and by educator rules if they were to serve the educator well. The literature indicates that this may not suffice. Fullan (1982) believes that the opportunity for teachers to interact with teachers and with others who can give technical assistance is more important than involvement in development. Project WILD also supported this approach through its typical implementation strategy. Educators, including teachers, attended leadership workshops in which they were prepared to return to their local areas to serve as resource people and as workshop facilitators in order to help teachers effectively implement Project WILD.

A second key factor is the **nature of the innovation.** The literature shows that innovations which are highly complex and/or

DETERMINANTS OF IMPLEMENTATION	↔	INITIATION AND ADOPTION	↔	IMPLEMENTATION	↔	INCORPORATION	↔	OUTCOMES
Need		Availability/appeal of program		Nature of the Program		Adaptability		Numerical achievements
Historical influences		Adopting agency support		Inservice education		Follow-up		Changes in Teachers
Developmental influences		Program support		Partnerships		Institutionalization		Changes in Students
Program Support		Other assistance		Agency support				
Leadership		Community/group support		Program support				
Fate and the human element				Administrative support				
				Educator support				
				Networks				
				Flexibility				
				External factors				

Figure 8

IMPLEMENTATION OF PROJECT WILD:
PHASES AND FACTORS AT THE NATIONAL LEVEL

require major changes in teaching styles, philosophies and/or skills are less likely to be implemented and will show more variation in use. Project WILD was designed to be easily integrated into the existing curriculm--to help teachers do what they are already doing but in a different, better or more exciting way. Since it offered a wide range of activities representing a variety of teaching and learning styles, it did not require teachers to alter their approach in order to use the program. However, the diversity of activities provided most teachers with new opportunities. The national leadership considered the materials to be of high quality. Characteristics which help to define what that meant and which influenced use are discussed in Chapter VII.

The **gap between the "ideal" and "reality"** draws much attention in the literature. Curriculum implementation is often characterized by mutual adaptation in which both the innovation and the setting change as a result of their interaction during implementation. The national leaders recognized the need for mutual adaptation in two main ways. First, in the implementation strategy, they emphasized the importance of flexibility. While they established specific guidelines for implementation, they viewed them simply as guidelines to be interpreted in a way which was meaningful within the context of each individual state. Second, the introduction to the guides encouraged teachers to adapt the materials for different purposes and to different settings. Activities frequently included suggestions for extension. The national leadership clearly indicated that Project WILD was designed as a flexible program for states and individuals to use in a way that best met their goals and objectives.

The **characteristics of the adopting unit** is recognized as one of the most critical factors in implementation. The national leadership acted upon this, again, in its emphasis on flexibility. At the local level they mentioned the need for support by administrators and teachers in order to have effective implementation. This topic is covered more fully in the following chapters.

In terms of **methods and strategies**, the one cited most often as important was inservice education and staff development. The whole implementation process of Project WILD hinged on the use of inservice workshops. National leaders believed that the materials were more likely to be used if teachers had the opportunity to interact with them in a workshop setting. The use of effective teachers as trainers of teachers is encouraged in the literature and, as previously discussed, supported by Project WILD. Mechanisms for feedback and follow-up to inservice are encouraged. At the national level, these were addressed at the national conference, through communications and within the implementation guidelines.

Another topic under this area involves resource support in terms of time, funding, materials, human resources, and peer support. Project WILD would not exist today without the tremendous support that it had received from the national level and the state level in terms of initial funding for the development and implementation; many volunteers who spend hours seeking funding, developing the materials and implementing them; and philosophical support during development and implementation. The other side involved the support which the program provided the adopting agencies in terms of leadership, services and assistance. The national leaders recognized the value of support by creating a steering committee and hiring a full-time director. Time, discussed as a resource, relates to the length of time to implement a program. The national level allowed each state to determine its own rate of implementation based upon its own context. It did not view implementation as a "quick" process since it used 1990 as the expiration date on the state contracts. This date was not view as an end for implementation but as a point for reevaluation.

The **role of development** is a key idea which emerged from this study. For the most part, development is viewed as a process separate from implementation; however, it cannot be viewed as unrelated. What precedes implementation in many ways affects and determines implementation. Only the model presented by Rogers (1983) explicitly discusses the role of development. In this study, development built an audience which was waiting in line for the program--a network which spread the word. Without this, the implementation may have occurred more slowly and perhaps to a different audience than would have been reached through alternative avenues. National leaders believed that use of teachers in the development process led to a high quality product. Without this, the nature of the program may have been different in quality, in appeal, in "fit" with teachers needs. Very closely related to development in this study is **historical influences**. The impact of Project Learning Tree, under the guidance of WREEC, cannot be ignored. It paved the way for Project WILD in terms of development and implementation--produced more refined materials, implemented them more quickly, and used the resource agency as the lead agency instead of the department of education. What if Project WILD had come first?

Finally, the theme of **fate and the human element** emerged as an important factor in this analysis. The literature does not overtly address this aspect although it could be argued that it is subsumed under some other topics such as administrative support or teacher support or characteristics of the adopting agency. The concept, however, should not be inferred or subsumed. It plays a very overt and direct role in this process. While it can be argued on the one hand that people control their own fate, the fact remains that events in this study did occur by chance, by luck, by coincidence, in synchrony, as serendipity and that these events shaped the process as did the others. Human qualities and personalities strongly determined the path of events. Integrity, commitment, dedication, enthusiasm, perseverance, fortitude, and the uniqueness of individual personalities, for instance, could not be discounted. Since these elements basically cannot be measured, managed, manipulate, or tangibly observed, the literature tends to gloss over them. While the source may be difficult to document, at times, the effects of fate and the human element were real in this study.

CHAPTER V

INITIATION, ADOPTION, AND PLANNING FOR IMPLEMENTATION AT THE STATE LEVEL

One year after its availability from the national level, the Department of Education (DOE) in the research state became an associate state sponsor for Project WILD. While the DOE was the agency which officially signed the contract with the Western Regional Environmental Education Council (WREEC), a partnership developed with the state Wildlife Agency, which led to a co-directorship and co-sponsorship. In addition, the Conservation and Sportsmen's Organization (CSO), a state affiliate of the National Wildlife Federation, provided some financial support. (As is necessary with qualitative studies, the names of the state organizations, agencies and participants have been changed to protect the confidentiality of the people and groups involved in this study.)

The research state, located in the midwest, is a well-populated, industrial and agricultural state. It has a history of supporting conservation and environmental education through state agencies, state organizations, local schools, and other groups. Project Learning Tree, which began in the state in 1981, is also sponsored through the DOE, but it is coordinated through a different section than Project WILD.

This chapter presents an overview of the participants from the national level, traces the adoption process within the state, describes the planning and maintenance of the implementation of the program, discusses the process from the state perspective, and discusses the findings.

Overview of State Level Participants

Ten individuals were interviewed who represented the state level perspective. Nine were directly or indirectly involved in the initiation, adoption and/or implementation of Project WILD as advocates for the program, decision makers, steering committee members, and/or workshop leaders. The other person was interviewed as the director of the section which sponsors PLT.

At the time of the study, five worked for the DOE--one as an assistant superintendent, one as the director of the section responsible for staff development, one as the science education consultant within that section (also as coordinator for Project WILD), one as the director of the section responsible for curriculum and instruction, and one as the science and environmental education consultant within that section (also as coordinator for Project Learning Tree). Two individuals worked for the Wildlife Agency, one as the education supervisor and the other as an education officer for one of the agency's five districts. Two taught in institutions of higher education, one at a university and one at a technical college. One person, while self-employed in the construction business, was a district vice-president for CSO.

In terms of educational background, 2 have a bachelor's degree, 3 a master's, and 4 a doctorate as the highest degree earned. Out of all the degrees held by them as a group, 17 degrees were earned in the general areas of education or environmental education and 3 in science. In terms of overall work experience, 8 taught in the classroom (including the two Project WILD coordinators), 5 taught or assisted at the college level, 3 worked for a state resource agency, 4 worked as an environmental educator or naturalist, and 6 held a supervisory or administrative position (most not with school districts).

Table 11 summarizes some of this information about the state level participants.

Table 11

OVERVIEW OF STATE PARTICIPANTS

Code Name	Current Position	State Steering Committee	Coordinator	Leader at Facilitator Workshop
Bruce Fraser	DOE			
Julie Kruse	DOE			
Betty Clark	Higher Ed	Yes		
Mark Parish	DOE	Yes		1*
Patty Beck	DOE	Yes	Yes	3
David Ecker	CSO	Yes	Financial Support	
Jane Banks	Wildlife			3
Anne Lang	DOE			
Roger Hirsh	Wildlife	Yes	Yes	3
Pam Trent	Higher Ed			1

(* Number of facilitator workshops at which helped facilitate one or more sessions)

Figure 9 presents a simplified organizational chart of the five positions held by the participants from the DOE.

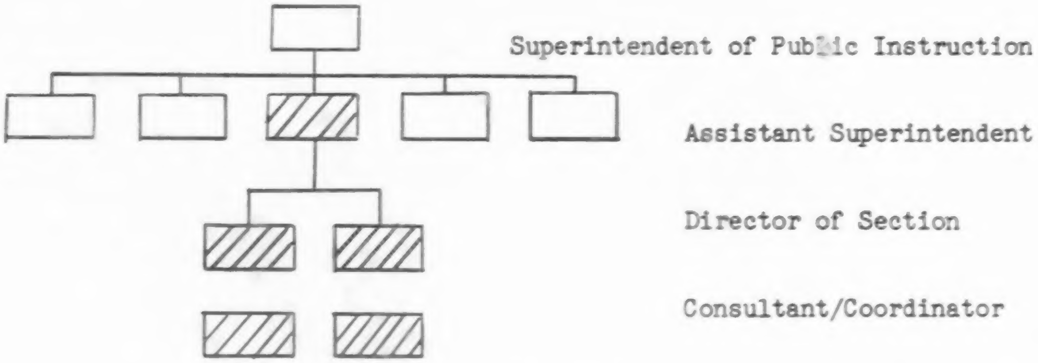

Superintendent of Public Instruction
Assistant Superintendent
Director of Section
Consultant/Coordinator

Figure 9

DOE Organizational Chart

Program Initiation and Adoption

THE FIRST DECISION TO ADOPT

The research state became part of the audience built during development, part of the group waiting in line. Although the state did not officially adopt the program until 1984, initiation efforts began several years before that. It is difficult to identify the exact sequence of events and all the players involved because of a lack of written records, records without exact dates, people's ability and willingness to remember, and differing perceptions of what occurred; however, the following depicts the overall flow of events starting around 1980.

Several of the people interviewed followed the development from the beginning. Jane met Kerry Baldwin, who was involved in the development and implementation at the national level, at a meeting of the CSO in the late seventies. She initially found out about Project WILD from him and kept track of its development over the years through him. During the field testing of the program, she received sample copies of the activities. She sent some of them to one of an outdoor education newsletters to spread the word about Project Wild. This happened more than a year before the program was adopted. Mark remembered first hearing about Project WILD during the early stages from the PLT national director. David also knew about it, before development was completed, through Safari Club International, a group of American sportsmen. This group had also drawn heavily upon Bob Hernbrode's activity guide for a publication they funded.

At that time, Pam worked for the state Natural Resources Commission (NRC) which functioned as an umbrella organization for a variety of resource agencies, including wildlife. She held the position of education supervisor within the public affairs section which serviced all the individual agencies. After returning from an annual meeting of the Conservation Education Association, a national organization, she brought news of the development of Project WILD to the Wildlife Agency. She recalled:

> I don't know exactly what the year was when I came back from CEA and talked to the people in the [Wildlife Agency]. I talked to the chief...to Roger Hirsh...to Jim Grooms....I went to [Jim] and shared with him the information. He wasn't real, real excited. It was an O.K. kind of thing. That happened for like two years. Each time I went and gave them more information. When I got a Xerox copy of what was being field tested, I went again and shared that a third time trying to get [the research state] as one of the trial states for Project WILD.

In March, 1982, Jim Grooms, the education supervisor at that time, called the national director requesting information about Project WILD.

She responded with a letter that would "serve as a point for initiating discussion" and included information about the nature of the program, the steering committee, and associate sponsorship. Materials sent included a brochure, draft conceptual framework, sample activities and informational paper.

That same spring, one of the Project Learning Tree staff, who was helping to conduct a PLT facilitator workshop in the research state, distributed a one page informational flyer about Project WILD. That was the first printed material that the researcher saw promoting the program, although she, also, had followed the development since its beginning.

In September, 1982, Jack Norton, the chief of the Wildlife Agency, received an informational letter and materials from Dolores Moulton, a member of the Project WILD steering committee. This promotional packet described "an exciting wildlife education program"--the need, who developed it, how it was developed, how to become an associate state sponsor, and what benefits sponsors receive. It included a copy of the draft conceptual framework with an invitation to review it; a background paper written by Rudy Schafer, president of WREEC; and sample activities.

This letter filtered down to the education section where Roger was asked for the first time to comment on paper about the program. The following reflects his initial reaction to the program:

> There was nothing in the letter that made it seem like anything other than a pitch for another conservation supplement...there was nothing in that letter other than it was complicated to be involved....Even looking at the draft materials...there was nothing there at this point in time that would indicate that it

> would become what we recognize today or that it had the potential to do that.

Rudy Schafer also sent his background paper to people, including to a university professor in the research state who was active in environmental education. The professor, in turn, asked for a set of the pilot test materials to review and suggested that he might be able to help publicize the program

In October of 1982, Roger, who had been promoted to education supervisor, wrote a memo to Don Burke, an executive administrator for the agency. In it he reviewed the nature of the commitment they would be making if they sponsored Project WILD, the advantages of the program (i.e., suitable for all grade levels and for non-academic groups), the logistic problems of implementation through workshops, the need for "concise and useable" materials, and their goal to provide such materials. He outlined three options: 1) sponsor the program with the assistance of Pam, 2) sponsor it through the Wildlife Agency education program and district education officers, or 3) continue to evaluate the program with the option of sponsoring it in the future. He concluded by stating, "At this time I would recommend avoiding commitment."

Sometime during this period, Pam continued to try to influence the Wildlife Agency to adopt the program. She stated:

> About a year before I left, Rudy Schafer volunteered to help get some real push in the state. We contacted people in Alaska, we contacted people in Florida, just all over who were going to go to a wildlife meeting that Gary Stranges, who was now the chief of the Wildlife Agency, was going to be at. And they came to him and they talked to him about it.
>
> We initiated writing campaigns at all PLT workshops to get Project WILD in so we would give out names of the chiefs and anybody that we could think of trying to stress getting it here in [our state].

Pam was not alone in her efforts. Others recalled:

> Then again, two years ago, we started looking into it. At that time the Department of Education wasn't even interested in it. (David)

> We had lobbied very strongly for the agency to pick it up...I approached Gary Stranges directly. (Jane)

> I made contact with the Natural Resources Commission and my superiors...trying to find funding...stretched over a two year period. (Mark)

In January of 1983, Mark wrote to the national director requesting additional information about sponsorship and to find out if anyone else in the state had contacted her about sponsorship. In her response, the director provided information about the program; indicated that she had had inquiries from Jim and Pam; clarified that the program was typically sponsored by the wildlife agency but that it should be in cooperation with the department of education; provided an update on current sponsors; discussed the possibility of a consortium of sponsors; and sent a set of field test materials.

In the fall, Roger was asked to reconsider Project WILD. On September 30, 1983, a year after his first memo, he wrote to Gary Stranges confirming again his recommendation that the division not sponsor Project WILD. The chief responded with a hand written note on October 9th:

> I want to reevaluate this. I think we can afford Project WILD. However, I want control by Wildlife; cooperation with and by Pam Trent.

At some point following the chief's interest in pursuing the adoption of Project WILD, Roger summarized on paper some of the pros and cons of the program and the agency's involvement with it. In this undated document and during the interview, Roger explained that the decision to adopt was made in spite of reservations which included: program sponsored by humane organizations, program takes a "neutral" position on hunting and wildlife management, the agency can produce its own materials, cost and mechanics of implementation, the materials lack innovation, the agency lacks appropriate personnel to administer the program, and the program fails to reach the majority of participants. Reasons given for why the decision was made to proceed included: the agency should join other states in a combined effort to provide conservation education to school children, the overall quality of the materials, the present lack of similar materials within the agency, a number of requests by educators asking for the program, and the opportunity to use the program as a mechanism to introduce other agency programs. Roger recommended that Jane Banks be appointed as the state coordinator and that a $25,000 budget be provided for the first year and $15,000 annually afterwards.

In addition to the above reservations, Roger discussed concerns that hinged on the overall program goals and philosophies of the agencies. He explained:

> ...it was recognized that there would be a lack of support...no credit...Project WILD as an example of the type of effort that is not recognized by the establishment within the [agency] as being a part of the big picture or "sure, it's nice, but what about this project here."...There are good people and good projects...and the long-term overall causative effects of those projects aren't recognized either...

On October 17, 1983, the national director mailed informational and promotional materials to heads of every wildlife agency, whether the state was already a sponsor or not. This mailing was sent at the request of the International Association of Fish and Wildlife Agencies, which had provided additional funding for the development and production of the materials. This mailing included a letter of explanation, three copies of the elementary activity guide, and an invitation to states to participate. Again, on January 23, 1984, a similar mailing was sent which included copies of the secondary guide. It indicated that 22 states now sponsored the program and again invited participation.

At the Southeastern Association of Fish and Wildlife Agencies, Eric Stapp, a district education officer for the Wildlife Agency, met with the national director and discussed Project WILD. As a result of this meeting and a follow-up letter by the director, Eric sent her some of the agency's educational and informational materials to review for compatibility with Project WILD. He also indicated that the agency planned on sending a representative to a Project WILD leadership workshop to be held in another state in April. In her response, the director complimented the agency for "the attention to instructional value incorporated" in so many of the materials and she cited many specific examples of how Project WILD could be used in conjunction with the materials. These correspondences occurred from November 10, 1983 to January 10, 1984. During this same time period, the national director corresponded with Mark, keeping him informed and sending him carbon copies of the communications with the agency. Mark also informed her of contacts with the agency and of the fact that the office which provided educational services for the public affairs section of NRC had been eliminated (i.e., Pam Trent's office).

In an undated memo from Roger to Jim following Eric's meeting with the director, Roger made a number of observations and recommendations including the following:

> ...The material in the form of the now completed manuals is excellent. There is adequate emphasis on consumptive use and wildlife management.
>
> Implementation remains the problem. All who have explored the implementation requirements agree that a full-time person would be needed to do a satisfactory job of coordinating our effort.
>
> ...We would all be quite excited about the potential that would exist with implementation but recognize our limitations considering our current workload and priorities.
>
> [We are] willing, able and anxious to implement the project but we all feel that a full-time coordinator is essential.
>
> There are individuals within the [agency] now who would be very interested in such an assignment.

On March 1, 1984, Roger sent a memo to all education officers confirming the chief's decision to adopt the program. It stated:

> The [Wildlife Agency] is going to become one of 24 member agencies of Project WILD.
>
> The attached background information is just the beginning. We anticipate Education Officers will be designated as District Coordinators. During the initial implementation, the project will become a priority effort ....In many ways our physical effort will compare to Hunter Education, training volunteers and coordinating local efforts.
>
> You will receive additional information as it becomes available. Look forward to workshops and be prepared to extend the necessary effort.

On March 5, Mark Parish wrote to the director explaining that he had heard about the decision, had contacted Roger, and had made an appointment to discuss the implementation plan. On March 6, 1984, the treasurer for Project WILD sent a draft contract to Roger to serve "as a beginning point in formalizing Ohio's participation in this program."

The next day, the director sent a letter stating:

> Enclosed are a few things which may be helpful in your planning at this time: preliminary coordinator guidelines; a proposal which was funded by the Western Association of Fish and Wildlife Agencies and which includes information pertinent to state plans; and a few samples of state plans ranging from brief to relatively detailed.
>
> The Project WILD Steering Committee would like to review your state plan, simply to provide assistance if appropriate and helpful....The most important thing is that you [in your state] come up with a plan you believe to be appropriate to your needs and wants....

ADDITIONAL INSIGHTS AND PERSPECTIVES

Overall initial reactions to Project WILD within the Wildlife Agency differed. According to Roger:

> Some initial reaction within the agency was that we should jump on the band wagon because other wildlife agencies did, even without looking at the materials. I don't really think, besides Jane and myself, anyone really knew much about the program....A negative reaction would be, Why should we have to purchase something that someone else prepared?...[Another] reaction was a bit extreme--this is God's gift to wildlife conservation education and if we don't do it [here], I am going to go somewhere I can do it.

Roger also remembered feeling inundated by the volume of promotional materials sent and, at times, being put off by it even though he thought it was well done. He recounted:

> They did a remarkable job of selling the program. Every time you would come up with an objection, you could find some answer to that objection in the printed materials they provided.
>
> The flow of information was somewhat relentless, perhaps to the extent where it prejudiced me against it a little bit....I was forced to comment on it again and again because they kept trying to sell it.

Roger also did not remember a specific time or event that would mark when he became more supportive of the agency's involvement with Project WILD.

> Other people that had looked at it closely whose opinions I respected said that we ought to take a look at this more closely...Jane, for one....It became apparent that other wildlife agencies were becoming involved. I don't think it was a recognition of the potential there--it was a matter that other people were looking at it more closely and perhaps I should, too....I can't remember any point where I said I now recognize the potential for our involvement. It developed slowly.

Part of his reservation may have been a result of a lack of involvement in and experience with environmental education programs in general and Project Learning Tree in particular. Pam and Mark were both actively involved in the implementation of PLT. They belonged to national organizations that kept them informed about the development of Project WILD as well as other trends in environmental education. Jane and David were also aware of Project WILD before national implementation began. Roger, on the other hand, was evaluating the program primarily based upon the promotional materials. He first heard about the program through "communications with the administration" who had received information in a routine mailing. He did not have the benefit of the years of "wisdom," "experience," and "success" of Project Learning Tree which emerged as so influential in "selling" Project WILD at the national level.

Pam was also asked to give her perceptions for why the Wildlife Agency initially decided not to adopt the program. She did not know for sure but she suggested several possible reasons:

> I think part of it was personality conflict. I think wildlife [in this state] has always been trying to maintain a macho image. I think they feel like they have the best set of information to give to kids and teachers. I don't feel that he felt credibility from me maybe because I am a classroom teacher and they have their opinions of classroom teachers....There was the negative aspects about hunting and no matter how many times I would show them places where it would be a positive thing, there was something that was stopping them...[Jim] had no one in his office to

> coordinate it and I don't think he wanted to go to [my office]...I think they were just worried about this $7,000...
>
> There is just some kind of hesitation by natural resources people in [the state] to take something that is outside and accept it as something that is worthwhile until they go to professional meetings where their own people advertise it.
>
> Then when my office was eliminated, Roger said, "now we are back on hold until we can get somebody who can really come in...hire somebody.
>
> I feel that the [Wildlife Agency] people don't have the classroom experiences and they didn't have the expertise on how to disseminate the information....So that is where they got a lot of hesitation. They wanted somebody who was going to do that part for them. That is one of the reasons why the office did all of that.

Many of her comments matched those discussed by Roger--production of own materials, hunting, need for a coordinator, money, and acceptance by other wildlife agencies. She raised a new issue--her perception of the agency's lack of experience in the classroom and with implementation. Some of her comments point to two interrelated factors which influenced adoption--history of cooperation (or lack of) between people and/or agencies and the "human element." Historically, the extent of cooperation between the NRC public affairs section and the individual agencies varied depending upon the policies of key decision makers at a given time. While on the national level the human dimension seemed to facilitate the process, it may have interfered with or slowed down the process in the state. Pam's perceptions of the Wildlife Agency's willingness and ability to cooperate with her office in the beginning and with her later as an independent consultant differed from the agency's perceptions.

For example, the agency perceived that the public affairs section, including Pam, believed that certain responsibilities to which the agency was committed belonged only to the public affairs section (e.g., environmental and conservation education; memberships in organizations). On the other hand, Pam believed that she was always willing to cooperate but that the wildlife people preferred to do their own programs. Pam saw her willingness to coordinate the program for the agency as a positive influence--providing a "little more push" for Roger in convincing the agency to adopt it. Roger perceived it as a negative influence, something he would have had difficulty selling. Pam believed that the agency had money to pay her as an outside consultant after her position was eliminated. The agency explained that no practical way existed to do that. The issue is not one of who's perceptions come closest to the "truth" but the impact of the perceptual differences--in this case, the possibility that they negatively influenced decisions pertaining to adoption.

In summary, people in the research state, as part of the audience waiting in line, knew about the development of Project WILD and brought the news back to the state before the program was officially available for implementation. While several people were very interested in its adoption, key decision makers and some staff members of the Wildlife Agency showed little initial interest in sponsoring the program. Later, the decision to adopt was made essentially by one person--the top administrator. Initial interest in a cooperative relationship for the program between the Wildlife Agency and the Department of Education existed but never developed. Factors that influenced the process leading to this decision included previous knowledge of the program, knowledge and experience with PLT, promotion, pressure and influence by other people and groups, the nature of the program, presence or lack of personal interest in the program by key decision makers, funding, perceived needs, agency support, politics, cooperative efforts, and the human element.

THE SECOND DECISION TO ADOPT

Shortly after the Wildlife Agency's decision to adopt Project WILD, Gary Stranges, the chief, left the agency. In a communication with the national director on March 29, 1984, Mark Hirsh wrote, "I hope the change in leadership has not reversed the decision...to move ahead with this project."

In April, another interested party became involved. Patty Beck, a science consultant with the Department of Education, heard about Project WILD at the State Science Supervisors meeting in Boston. In evaluating the program, she decided that it was excellent both in the quality of the materials and in the inservice model used for implementation. Excited about the program and armed with a copy of the elementary guide, she "came racing home and showed the manual to Julie," the director of her section. Julie was "enthused by the organization...and the training." This encouraged Patty to pursue it further. She contacted the national director who told her about Roger. On April 20, 1984, Patty wrote a letter to Roger expressing her interest in cooperating on the program. She stated:

> I am delighted to hear that [our state] will have access to Project WILD materials through your department...I would like very much to work closely with your department to contact teachers K-12 for future inservice training.
>
> I realize that you have had a change in administration and things are going slowly toward adoption, but please consider including our office as a laison to contact teachers throughout the state.

When she first talked with Roger, he seemed very positive about including her "in any way, shape or form that he could." But in talking with him over several weeks, she kept receiving what she perceived as mixed messages--"Yes, we are. No, we aren't." This perception of changing attitudes may have been related to mixed feelings about the program and to the change in administration. Jane explained that the change led to a reevaluation of Project WILD and that the new chief, Russ White, decided to "ax it." David, from the CSO, discussed his understanding of the situation:

> There were a lot of problems and I don't think they wanted to get into anything new--a lot of political problems within the [agency] at that time. In fact, there wasn't even good cooperation between the Department of Education and the resource agency. We hope that we were part of the ones that brought them together.

On May 14, 1984, Don Burke sent a memo to the new chief which indicated that a decision had been made to "terminate our intention of becoming the sole sponsoring agency" for Project WILD in the state. It also indicated that the agency planned to endorse the program and offer its support in the event that the DOE "seeks coordination elsewhere."

When Patty found out that the Wildlife Agency definitely was not going to sponsor Project WILD, she talked to Julie who said that they could. Together they approached Bruce Fraser, one of the assistant superintendents, not so much because of the monetary commitment but for other factors--involvement with a consortium, cooperation with another state agency, major interest in science education.

Julie remembers:

> He seemed very impressed with the materials. There was really no hesitancy at all. He wanted to know who was in the consortium and then I think it went without saying that he was impressed with the training that went with it.

After a brief discussion with the superintendent, he gave the "green light." Patty called the national director on May 22, indicating their interest in pursuing Project WILD. The director sent her a packet of implementation materials similar to the one sent to Roger 14 months before, as well as an agenda for the coordinators conference to be held the following week in Reno. In an effort to learn more, Patty attended the conference. She recalls:

> I wanted to know more about the program than I knew. I wanted to know how it was run and somehow, perceptually, it was very difficult for me to envision what was going on and what it really meant. I could see the materials were excellent but I wanted to see what some of the other things were--look more at the process of it. So I went and did that and came back with even more ideas that were exciting.

Soon after returning from the conference, she began developing the state plan and planning other aspects of the implementation phase. She was sitting at her desk one day, thinking about the program and the fact that she had only been at the department for six months. She was questioning her intuition, the appropriateness of the program for the department, the potential of the program, and her limited statewide contacts at the time when Warren Cramer, the legislative laison for the department, appeared at her office door. She reflected:

> I felt at the time that I was putting my neck on a chopping block, as a very new person....One day Warren Cramer just showed up at my door....He was working with the governor and with the legislature in environmental programs, environmental thrusts....At the time, they were really upset that not very much was happening from the state level....So Warren was extremely excited that there was a possibility for another program of an environmental nature. It was kind of like he just put that finishing frosting on the decision!...He is at a very political level which is very helpful.

Julie also knew of Warren Cramer's interest and involvement as well as that of Ken Tripp, one of the assistant superintendents. She indicated that they may have been supportive of the decision.

> Because of working with the Natural Resources Commission, Warren Cramer and Ken Tripp were aware, especially Warren. And either there were other things happening at the same time that made a double agenda item or a single item, but I know that they were aware of what was happening because of the NRC. And the Conservation and Sportsmen's Organization. Warren had had other contacts with the CSO.

It is difficult, if not impossible, to determine the influential factors in this realm. Two other pieces may or may not have encouraged the support from Warren Cramer and Ken Tripp. In February of 1984, a statewide alliance of organizations supporting environmental education met with the Department of Education to push for more support for environmental education through the department. Both Cramer and Tripp attended that meeting. In addition, professors from a state university were exploring the possibility of coordinating Project WILD through the Cooperative Extension Service in cooperation with the Wildlife Agency and the Department of Education. Cramer and Tripp, as well as Roger Hirsh, were involved in these discussions.

On June 11, 1984, Don Burke sent a memo to all the district managers for the Wildlife Agency asking them to inform their education officers that a reevaluation of the agency's "priorities and capabilities" had changed the decision to sponsor Project WILD; however, they endorsed the program and saw "significant interest" in a cooperative effort with the DOE and CSO.

On July 2, Patty indicated in a letter to the director that they were "still very much in the planning stages of adopting Project WILD."

And the story continued. In early August, David Ecker, representing CSO, contacted the director to express their interest in sponsoring the program. A draft contract was sent to him. The following quotes capture some of the perspectives on their involvement.

> As we have discussed, the [state] Department of Education has a draft contract in hand as well. This contract was originally sent to the [Wildlife Agency]. We need to check on the status of that contract and the plans for Project WILD with the Department of Education and the [Wildlife Agency] before we would feel comfortable making final any other contract involving Project WILD in [your] state.
>
> Project WILD is characterized by its unusual and effective collaborative nature....[Your state] appears to be off to a significant start in exemplifying that cooperative nature. (8/7/84 letter from director)
>
> Then I made application to the Project WILD headquarters to sponsor it in the state....At that time we found out that the Department of Education was interested in it and we kind of pushed the [Wildlife Agency] into it....We thought we could raise more money if the Department of Education had it--it was kind of an end run. When they found we were ready to sign the contract, that spurred the Department of Education to get some funds to sign it or they were afraid they were going to lose it. We had the money appropriated and the check cut. We were going to do it alone if we had to! (David)
>
> A brief explanation of the change of the contract between the Western Regional Environmental Education Council and the Conservation and Sportsmen's Organization to the [state] Department of Education was according to state law. The [state] Department of Education cannot monetarily participate in a program which is not directly contracted to them. (from CSO grant proposal to various foundations)
>
> It was taking more time just like everything else...trying to figure out exactly how we were going to get the $7,000....[David] had gone ahead and was going to adopt through the organization...going to have Project WILD manuals in the hands of every single teacher in one year! (Patty)
>
> I think it was just a question of timing. I think we were taking longer to work it through and they thought it was good and wanted to get it done. They were going to get the contract. I thought the department ought to have it because it needed to be done and because we knew how it ought to be done. That it shouldn't be associated with any organization other than the state Department

> of Education or the Wildlife Agency. I think it would have been wrong and eventually have killed itself if it would have been associated with a sportsmen group....I think we crossed that bridge nicely because, at that time, it was "if we can't have it, we don't want anything to do with it" reaction. (Julie)

> There was some concern that it was not a state agency...some concern when you don't have some continuity and some legislative responsibility and some definite budget which you will have with a state agency. (Jane)

While different ideas were offered for why the contract went to the Department of Education, several big ideas emerged from these quotes. One was the importance of time, both in terms of "speeding up of events" and "first come, first serve". Another was the nature of the sponsoring agency in terms of credibility, capability and flexibility. Finally, the idea of the value of cooperative efforts was emphasized. In addition, a factor not expressed in these quotes was important. Because of the tradition and precedence established by WREEC, the first right of refusal would have been given to the wildlife agency and/or the department of education, and then to other interested parties.

On August 20, 1984 Julie Kruse sent the contract, signed by the superintendent of public instruction, and a letter designating Patty Beck as the state coordinator to the national director. On September 5, 1984, the president of the Project WILD Steering Committee signed and returned the contract to Julie--one year after the official availability of the program from the national level and approximately four years after initial interest in the program was expressed within the state, this midwestern state became an associate sponsor for Project WILD.

ADDITIONAL INSIGHTS AND PERCEPTIONS

In spite of this rather long history of a variety of parties wanting and trying to adopt Project WILD, several of the people at the state level did not anticipate the events as they happened. For example:

> ...all of a sudden the Department of Education came up with the $7,000... (Pam)
>
> ...one day I heard that it was coming to [the state] and I didn't know anything about it. (Mark)
>
> ...I didn't feel it was as up front as perhaps it should be....I kept hearing this and this and then, suddenly, it was all decided. That is O.K., I guess, but I don't feel good about that. (Betty)

I had the same reaction. I was convinced that my friend who told me about it was confused. I had been following this process very closely because of my research interest, and then, all of a sudden, someone I did not know was coordinating Project WILD. Why did these people who were "in the know" not know that the program was being adopted?

One of the biggest reasons came from the fact that Patty was new in her position and, in addition, her position was new. There was no history of involvement in environmental education by her section. People traditionally looked to the DOE section responsible for curriculum and instruction, to the Wildlife Agency, and to NRC for these activities. Suddenly, this new person entered the scene and few people, at that time, even knew she was there. In addition, lack of a good rapport between the two sections of the Department of Education hindered communication so that the one hand did not always know what the other hand was doing. In this way, people inquiring through the curriculum and instruction section about Project WILD did not find out about what was happening just down the hall.

Why was it so "easily" adopted by the one section and not by the other? Part of this had to do with the distinction between the responsibilities for the two sections. Both Bruce Fraser and Anne Lang discussed the fact that the emphasis of one section was on staff development and the other on courses of study; one on leadership and one on regulation. While these distinctions were not clear cut, they guided decisions. Project WILD was adopted as a training model and, therefore, fell under the jurisdiction of staff development. Anne Lang expressed a related concern. DOE policy prevented the endorsement of textbooks or programs by the department. She believed that sponsorship of Project WILD and similar programs might have been perceived as an endorsement. Another explanation pertained to time, money and opportunity. Anne Lang described it as "the right time at the right place." Others said:

> ...but our staff development section inherited, if you will, with our state excellence monies a charge to promote excellence in math, science and written composition....And Project WILD really came in as a part of that. (Bruce)
>
> We [staff development] had money and they did not. We had time and they did not. (Patty)
>
> To me it has lost a lot of ground by it not being [under curriculum and instruction]....To me it is environmental education....Can't there be priorities given to where it is going to be best done and then work around reallocations of time and resources? (Betty)
>
> ...Mark is probably much better qualified to do the job but he is not funded and, it is unfortunate, but money talks...(Patty)

In summarizing the sequence of events in the second decision, a fairly new person to the Department of Education, with no previous knowledge of Project Learning Tree, found out about Project WILD, and approached her superiors about the possibility of adopting. They immediately supported the idea and began the necessary steps. Another organization also wanted to adopt the program but the DOE finally became the sponsoring agency. Factors which influenced this decision included: support for the program by key decision makers and staff, the nature of the program, timing, availability of time and money, nature of the sponsoring agency, fate and the human element, mission and needs of the section, and interest in cooperation.

In all, six different parties showed some level of interest in actively sponsoring the program--DOE staff development, DOE curriculum and instruction, Wildlife Agency, NRC education office, CSO, and a university extension program. This level of interest spoke as much for the program as for the individual motivations of and opportunities for the people involved. In the end, three joined together in a cooperative venture to plan, implement and maintain a wildlife education program.

Implementation--Planning and Maintenance

INITIAL PLANNING

Plans for implementation began four months before adoption was complete. Perhaps the director's packet of implementation materials and Patty's attendance at the coordinators conference in Reno represented the first events in this phase. It was also at this point that I, as the researcher, became one of the major players in this process. Unknown to Patty, on June 1, 1984, Jane, Pam and I traveled to another state in order to become certified as Project WILD facilitators--frustrated by the state's slow progress and wanting to be ready when it finally happened.

On June 4, a friend who had attended the coordinators conference called to tell me about Patty Beck and the state's plans to adopt Project WILD. While in the process of trying to find out who this person was and for what agency she worked, Mark Hirsh dropped by my office to tell me that he just found out that Patty's office was adopting the program. The next day I contacted her, as explained in Chapter III, to gain entrance to conduct this study.

On June 8, 1984, Patty placed a copy of the implementation materials from the national director in Julie's mailbox along with an outline of an action plan--determine exactly what they were going to do within their section; inform Mark Parish and Anne Lang of the adoption; and arrange a meeting with the resource agency (including wildlife representative Roger Hirsh and a higher-up possibly determined by Warren Cramer), Julie Kruse, Patty, Warren, and others to be determined. In addition, it outlined "steps to adopting Project WILD" which included: an agreement between their agency and another, preferably a "game" agency; both agencies to share the $7,000 cost; both to develop a plan to train teachers; and actual training of teachers. It also indicated that an informational meeting of representatives from various associations (e.g., American Rifle Association, American Humane Society) should be held to explain about the program.

In early July, decisions began to occur about the first leadership workshop in which facilitators would be prepared to conduct Project WILD teacher workshops. In a letter to the national director on the 2nd, Patty told her that the workshop was tentatively scheduled for November 13-14, that Scott Ladd, from the national level, would help facilitate it and that she hoped he would return in the spring for a second workshop. She mentioned the fall Statewide Science Conference at which she hoped that one of the state people recently trained in Project WILD would conduct an awareness session. Finally, she placed a printing order for 100 copies of each of the guides and indicated their intention of meeting future needs by printing the guides within the state.

Patty called me that same day. We discussed details of the workshop such as dates, agenda, Pam and Jane as facilitators; the presentation at the science conference; and the value of Patty going to New Jersey to become a trained facilitator before November. Information sent to the director and decisions based in part on that conversation were then confirmed in a letter to Scott Ladd on the 3rd. She told him that I would do the presentation and would help with the facilitator workshop and that I had recommended that she attend the New Jersey workshop. Patty also mentioned talking to the NJ coordinator about the pros and cons of attending and decided that she definitely had to go--which she did in early August.

STATE PLAN

Over the summer, Patty developed a state plan, which she completed in time for an August 9 meeting of public information personnel within the NRC. Scott Ladd was asked to comment on the document before the meeting. The actual meeting addressed little of substance in terms of cooperation between the two organizations but provided an overall introduction to the program and opened the door for future efforts. Following the meeting, Patty and Roger began cooperatively planning for implementation. The final state plan reflects his comments.

The format and content outline for this state plan came directly from the implementation guidelines contained in the WREEC implementation proposal. All three of the basic guidelines are addressed (i.e., coordinator, advisory committee, state plan) as well as all of the basic components listed under the discussion for state plans. Most of the differences between the early drafts and the final draft reflected changes in wording rather than changes in substance or strategy.

The formulation of the state planning and advisory committee represented the only major exception to this. Originally, Patty planned to use an existing science advisory council as the Project WILD steering committee, perhaps adding some people for broader representation. A meeting was already scheduled for September. This approach was recommended by Julie Kruse to prevent establishing too many committees with similar functions. Mark Parish and I both recommended that a separate committee be formed. This was based upon our belief that not all of the science committee members would be interested in Project WILD and that Project WILD represented a separate task, not one agenda item among many. Members of the the science council were eventually invited to participate on the Project WILD steering committee but a separate group was established following guidelines from the implementation proposal.

Everything contained in this three year plan occurred to some extent and is documented in this study except for one item. Four summer regional workshops were planned in cooperation with college and university based teacher education programs with college credit or continuing education units offered. These never materialized based upon recommendations of the advisory committee. In general, the plan called for 2 facilitator workshops per year resulting in 100 facilitators who would then meet the demand for teacher workshops and presentations. Announcements of workshop availability would be made through the DOE, the Wildlife Agency, and a variety of formal and nonformal educational organizations and sources as well as through the advisory committee. A semi-annual newsletter to facilitators would include "tips" on training and workshop news items contributed by facilitators. A yearly "update" workshop would be provided for all facilitators.

When state leaders were asked to describe the implementation process, no one mentioned the use of a state plan. When asked about it, Patty viewed it as an excellent requirement, without which there would have been even less structure than there was. But she remembered a conversation with Roger:

> As Roger said, and it kind of brought me to a squeaking halt, we don't really have a plan. We don't really have a plan when you consider the lack of PR. What we are doing is haltingly going around and trying to give inservice right now. We are not relating to the public really. If they hear about it or see it they come and ask us to help them.

In this way, the state plan helped in terms of overall direction and strategy but not in the specifics of how to really accomplish the tasks in the best possible way.

PLANNING AND PROMOTION

My first meeting with Patty occurred on August 28, 1984. It involved getting to know each other, sharing general education information and research, and gaining insight into what had happened with Project WILD up to that point (i.e., tracing the history of initiation and adoption). Patty allowed me to go through her files and photocopy information relevant to this study (this practice continued throughout the study). Mark Parish attended part of the meeting and provided information and insight into the implementation of Project Learning Tree. One of the major topics of discussion was the steering committee--its purpose and membership. Recommendations from this meeting influenced the changes in the nature of the committee as previously discussed. Mark and I were both asked to suggest names of people for the committee, in addition to the ones we discussed at the meeting.

The next day Patty called. Mark had already given her a PLT workshop application form to modify for Project WILD. This and an informational brochure were ready to print. Roger had already requested funding to send agency representatives to the first workshop and $5,000 to be used as everyone saw fit. At the end of the conversation she said, "I'm really getting turned on now! I thought I was before but I really am now."

She had set up a meeting for the following day. That was the first time I met with Roger and Patty. Again, part of the meeting was spent getting to know each other. Roger shared some of the history of the Wildlife Agency's involvement, some of his initial reservations, and some of the resource materials he felt were appropriate to use with Project WILD. One of the main tasks for this meeting was to discuss how to adapt the "workshop handbook" and "excerpts book" used in other states to meet our immediate needs. The handbook was used to guide facilitators in planning workshops and included local resource information in the appendices. Paul volunteered to adapt and print this. The excerpt book literally contained pages photocopied out of the elementary guide as a promotional piece and names of contact people for more information. Patty wanted this to be ready in time for the science conference. She and I agreed to modify it, with the DOE printing it. The next week I sent her my recommended changes which would "better represent the interdisciplinary, K-12 nature of Project WILD as well as better cover the total conceptual framework." I also included a list of people to consider for the advisory committee.

On September 21, 1984, Patty gave an introductory presentation to the science supervisors--her advisory council. She mentioned the governor's push for environmental education, some of the history of the adoption of the program in the state, the importance of having excellent trainers including non-science people, the quality of the materials, and the value of the implementation strategy (i.e., the workshop approach). Finally, she asked if anyone was interested in serving on the advisory committee. Several volunteered but none of them were later invited to participate. They were also provided with an application form for the November workshop.

And the word was spreading. Patty's files already showed signs of her having told people who told people who told people about Project WILD--phone messages and letters. The results of an environmental education survey conducted by NRC mentioned the cooperative effort with the DOE pertaining to Project WILD. I gave the first awareness presentations for teachers during two sessions at the Statewide Science Conference in October and received follow-up requests afterwards. Don Burke, from the Wildlife Agency, sent another memo to the district managers announcing that the DOE was sponsoring Project WILD and that their agency would be credited as a supporting agency. The Wildlife Agency sent out a news release which appeared in at least one major metropolitan paper. A month and a half before the first workshop, it was over half-full. And as the word spread, it brought feedback--mostly positive, sometimes constructive. A PLT facilitator and assistant superintendent of curriculum and instruction wrote:

> I'm somewhat puzzled as to how the information concerning Project WILD was distributed. Several persons who were trained in the PLT program had not received information and other persons who have been very active in outdoor education in [the state] had also not received information. If it would be of help to you, Patty, I would be glad to give you the names and addresses of several persons and organizations that have a strong outdoor education focus....it would be ideal if we could channel the information to the outdoor education network that exists around the state.

WORKSHOPS

With little promotion but much enthusiasm the first facilitator workshop was held November 12-14, 1984. The first teacher workshop was conducted on December 1, 1984 and within 1 month of the facilitator workshop, 12 teacher workshops were already scheduled.

Chapter VI presents the full discussion of the planning, promotion, conduct, follow-up and evaluation of facilitator and teacher workshops.

PLANNING AND ADVISORY COMMITTEE

On January 23, 1985, the Project WILD Steering Committee met for the first and only time--four months after the official adoption of the program and two months after the first facilitator workshop. The letter, inviting people to attend, stated:

> In accordance with the Project WILD rules and regulations [the state] must have a planning committee to include individuals representing [diverse groups].

That statement pretty well summarized what happened. Patty viewed the committee as a "requirement," something put together "in order to comply." From her perspective, the committee was a success because it was not intended as a "working body" but "as support...as more people understanding Project WILD from a whole variety of perspectives."

A group of diverse people met--but not as representative as some would have liked. One person commented that there wasn't "much representation of education--from teachers or principals or curriculum people in the field." Two people were invited but could not attend. Another wanted more representation by parks board people.

During the meeting, Patty presented an overview of the program, went over the three year state plan, gave a progress report, and discussed financial needs. Questions and comments flowed freely. In the minutes of the meeting, Patty lists four suggestions and insights from the committee: 1) a needs assessment to determine teacher demand for the materials and cost/usage information, 2) a pretest/posttest evaluation of environmental/conservation education in the state, 3) grant proposals to seek funding to solve the problem of not having enough activity guides, and 4) a need to determine the desirability of a newsletter.

While the state leadership, including Patty, described the advisory committee as nonfunctional and ineffective, Patty did take these suggestions seriously. These topics appeared over and over again in letters, during meetings and in conversations. Some follow through was accomplished. The only other positive insight into the value of the committee was by two people who suggested that individual members might prove helpful (e.g., political pressure, promotion, funding), but not the committee as a whole.

Most of the leaders believed that an advisory committee, as a concept, had value and potential if it was comprised of the right people, met regularly and had the opportunity to function as a working body to determine policy. Only one person believed that "we rely too heavily on focus groups" and that "we don't need untrained people to tell us that we are right or wrong." Patty believed that she had to have an advisory group but stated, "I found out later that that isn't done very often."

In the case of both the state plan and the advisory committee, Patty perceived much more of a rigidity and "have to" attitude than is indicated by the national leaders. As previously discussed, they talked about "flexible," "recommend," "strongly suggest," "encourage," and "supposed to." Perhaps this sense of rigidity comes from the original implementation guidelines. Although the word "should" is used throughout the implementation guidelines discussion contained in the implementation proposal, a sentence in the introductory paragraph states, "These [guidelines] would outline basic requirements for program implementation and maintenance in the states." This sets up the expectation that these three requirements will be met. In this state, they were met in a primarily perfunctory manner--more of a skeleton than a fleshed-out body.

PROGRAM MANAGEMENT AND MAINTENANCE

Just as the responsibility for carrying out the policies of the Project WILD Steering Committee and coordinating the program at the national level rested with the director, at the state level it rested with the coordinators. As with the national level, some of these tasks were on-going while others were one-time or periodic projects. The nature of these duties were governed, in part, by need, interest, funding and time.

Workshop Management

Certainly the number one task was to coordinate and manage facilitator and teacher workshops. In addition to actually planning and conducting facilitator workshops, this involved, for example, processing forms (e.g., workshop proposal forms, facilitator reporting forms and participant survey forms), shipping activity books and other materials in time for workshops, keeping records, responding to requests for help, and linking facilitators with people wanting workshops. A system evolved where Patty processed most of the forms and kept the records while Roger stored and shipped the materials. Both served in a clearinghouse capacity.

A related responsibility was giving the annual printing order for the activity guides to the national office. Books became a limiting factor during the first year. Since the activity guides were printed annually during the summer, the DOE would have had to have ordered books prior to officially adopting the program. For this reason and because the DOE planned to print the books in-house to save money, Patty only ordered 100 copies of each guide for the initial implementation. The department quickly realized that they could not print them as cheaply as they could purchase them from the national level; however, it was too late, by that time, to place a printing order for 1984-5. They purchased what was available from the national office (490 elementary and 635 secondary guides). By May of 1985, they were completely out of elementary and secondary guides. In trying to avoid this situation, Patty had deliberately not promoted the program for fear that she would not be able to meet facilitator requests. Twice she borrowed books from California but the department had no mechanism to pay the freight charges. Patty asked CSO to pay the charges, which they were able to do. For 1985-6, Patty ordered $20,000 worth of books but only had funding commitments from DOE and the Wildlife Agency for $15,000. CSO urged her to increase the printing order because they planned to pay the difference.

Budget and Funding

This pointed to another responsibility and concern--budget and fund raising. The Department of Education bought into the program when there were no monies allocated for Project WILD. During the first year, it was a constant struggle to find money to run the program--to pay for the workshops and buy the books. Patty knew she would have money for the next fiscal year from DOE and the Wildlife Agency, but, by February of the first year, Patty was totally exasperated with the circumstances and expressed her concern for the credibility of the program. She constantly referred to "creative financing" and how time consuming and frustrating it was to deal with budgetary constraints.

CSO became a source for "small" amounts which were difficult to obtain otherwise (e.g., travel expenses for Patty and the researcher to attend the national conference; freight charges for books). They also designed and printed certificates for workshop attendees which was proving difficult to achieve through either agency. But they were never able to purchase books outright. During the spring of 1985, Patty sent at least four letters reminding them of the need for funding for books. As suggested by the advisory council, they attempted to meet this need and others (e.g., facilitator training, secretary, project evaluator, office expenses) by writing a grant proposal for $85,000. Patty provided input. They submitted it to different foundations and philanthropic organizations, but it was never funded.

The major budget responsibilities remained with the two agencies. Both agencies did what they could during the first fiscal year. The second fiscal year, the DOE continued to pay for the major expenses related to the facilitator workshops (approximately $5,000 per workshop) as well as pay for some books. The Wildlife Agency received $10,000 from the Nongame Program for 1985 towards Project WILD. While budget concerns improved after the first year, they remained an issue. Julie Kruse emphasized departmental constraints when she commented:

> One concern...is keeping in the cycle of making the material resources available....I can see us paying for training better than I can see us putting up the dollars that need to go for buying books. This is kind of the way the system is structured.

The question was not so much whether or not the department had the money but on what items it could be spent.

Promotion

Another management and maintenance responsibility concerned promotion--of the total program and for facilitator workshops. As mentioned previously, Patty was afraid to promote the program beyond the ability to meet demands for it. In general, little overall promotion of the program occurred. Initially it involved the previously mentioned presentations by Patty and the researcher, a news release sent out by the Wildlife Agency, and word of mouth. The first workshop depended mostly upon the people who had been "waiting in line." Some applications for the workshop were sent out through Patty's science network, but, in general, the workshop was filled with little promotion. A one-page informational sheet, modified from one by another state, was used to respond to requests and distributed at presentations. It was never "mass" mailed to promote the program.

Later on, workshop promotion became more deliberate. Regions in the state with few facilitators were targeted, with mailings sent to curriculum and science supervisors through the DOE's regional councils. People who attended a teacher workshop and checked on the evaluation form that they wanted to become a facilitator also received application forms. For the third workshop, Patty prepared a letter which included quotes from a variety of workshop participants expressing the value of the program, an overview of the program, how to bring the program into a school district, and what the program could do for a district. The latter stated that the program could provide useful and meaningful inservice, provide free manuals, provide a support system, assist learners in making responsible decisions about wildlife (i.e., gave the goal of Project WILD), provide materials to deal with science-related societal issues, and help students acquire decision-making and problem solving skills. This letter went to a variety of state science organizations, state science supervisors, and teacher development people in the workshop region. It generated a burst of requests for information and training on Project WILD. Workshop announcements did not appear in the major outdoor education newsletter although news of the program and general availability of workshops was included. Current facilitators received information about upcoming workshops in order to help spread the news.

In general, specific promotion of the program, however, never increased from the state level. It depended upon word of mouth, presentations and workshops by facilitators, and facilitator workshop announcements. A travel exhibit for use at conferences and other large meetings was designed by the researcher and produced by the Wildlife Agency. The need for an informational and promotional flyer was discussed on different occasions. Time and money were constant constraints. The Wildlife Agency kept the flyer on the agenda of tasks to accomplish, but it was never produced. This lack of specific promotion by the state coordinators was not perceived by Patty and

Roger as a major problem. The Project WILD network was building and, based upon time, staff and resources, it was growing at a manageable rate.

Follow-up

The same could be said about the responsibility for program follow-up. Some was done, more was desired, the best that was possible was accomplished. As with the promotion brochure, the desirability of a newsletter came up on many occasions. Who would write it, compile it, print it, mail it, and pay for it? To whom would it be sent? to facilitators? to both facilitator and teacher workshop participants? Who would maintain a current mailing list? A formal newsletter, as described in the state plan, never materialized, but communications to facilitators were sent by both Patty and Roger. Usually after a workshop, a follow-up letter was sent to facilitators, sometimes with materials requested during the workshop. Other communications were sent as the need was felt, sometimes by one coordinator, sometimes by the other, sometimes together. These were not numerous, totaling four to five by the end of 1985. In terms of content, the memos provided information about: the program, new forms or procedures, upcoming facilitator workshops, a reunion workshop for current facilitators, controversy, assistance from CSO, book ordering, PLT, new supplemental materials and how to order them, evaluation efforts, county-by-county directory of facilitators, availability of certificates, and problems with facilitators returning evaluation forms. These communications were informational in nature and contained nothing on "tips" for workshops, "neat ideas" for using the materials, or accounts of how the materials were being used. In addition, facilitators received a quarterly newsletter from the nongame program of the Wildlife Agency. This publication provided information and research findings on state animals and wildlife programs as well as occasional articles on Project WILD.

Another method of follow-up was a reunion workshop--a time to reinforce the support system, share successes and problems, learn about wildlife, and brainstorm new ideas and directions. This will be elaborated upon in Chapter VI.

Controversy

While the controversy consumed much time and resources at the national level, it required little attention at the state level--at least for the coordinators. In the fall of 1984, the Humane Society of the United States, on behalf of eight animal welfare groups, sent a letter to the governor, school superintendent, and the director of fish and wildlife in each of the 50 states to voice their "strong protest concerning the current Project WILD material." This information was also sent to local humane societies with a request to write letters to state officials opposing the use of Project WILD. As a result of this letter writing campaign, a number of letters were received by DOE, NRC and the Wildlife Agency in the research state.

Interviews with the state leaders indicated various estimates of the numbers of letters received, ranging from several letters to several thousand letters for the Department of Education and several hundred for the Natural Resources Commission and the Wildlife Agency. Most letters were form letters. Sometimes the same person wrote to both agencies or the letter was sent to the governor whose office then forwarded it to the agencies. The following excerpts help to characterize the concerns expressed in the letters written by those people opposed to the program in the research state:

> They want to convince kids that their arrows and musketballs are fired out of the kindness of their hearts, they are only saving animals from the ravage clutches (God help us) of Mother Nature....Game commissions and hunting organizations have manipulated competitive animals out and those they can shoot--without threatening them--in...Yet, the very imbalance they have created is their biggest excuse for hunting....How about teaching kids about empathy and compassion?...What could possibly be construed as positive about teaching our children to kill, especially under the false premise of conservation? They will have the rest of their lives to learn, first hand, about greed and selfishness, exploitation and cold-heartedness without "Project WILD."
>
> Its admitted goal is to obtain student agreement with the statement "When I grow up I want to be a hunter."...Their material is biased beyond measure. It states that hunting prevents animal starvation by keeping the population down. It doesn't mention that wounded animals starve....
>
> Wild animals are portrayed as resources that must be "harvested" (controlled) by man in order to prevent overpopulation, habitat destruction, and starvation. This is simply not true. Hunting is normally done for sport in America today. This fact is not mentioned in the Project WILD material.
>
> Since this curriculum has been initiated and pushed by Western Association of Fish and Wildlife Agencies the philosophy behind it would have to be suspected of bias. I'm wondering how our state department of education allowed themselves to become partners to a philosophy that will teach our youth--social, feeling, beings are just "renewable resources" to be "harvested."
>
> No discussion is provided of the ethics of killing wildlife for sport or recreation, and no discussion is devoted to those who believe that wildlife has an intrinsic right to exist. No mention is made of the philosophy of wise stewardship...
>
> Our children must not be exposed to the idea that animals are simply a harvestable resource. Animals feel love, fear, pain....This is just another reason added to our list of wanting to leave [this state] as soon as feasible. [This state] seems a backward state and I feel nothing will change.

> Children of all ages are very impressionable and humane education should and must be taught in the schools. However, a text with serious inaccuracies and omissions could be very biased and harmful. A point in question is that without human intervention all species of wildlife will "over-populate", destroy their habitat and starve. This is of course untrue. Are we teaching our children to condone hunting and trapping as necessary? I certainly hope not! (form letter)

For the most part, the letters were answered with a short form letter. From the Superintendent of Public Instruction the letter stated, "under [state] law, the use of any curriculum material is at local discretion and is not impacted upon by the [state] Department of Education." In responses that did not use the form letter, the same point was made along with the mention of revisions to the guides to address these concerns and evaluations of the program to assess its use. The director of the Natural Resources Commission stated, "We feel 'Project WILD' is an excellent way to teach wildlife conservation and natural resources management to the students in our schools."

When the state leaders were asked if they thought there had been any controversy within the state, they responded with "no" or "not much" or "some," but no one believed that it negatively impacted the process of implementation. Patty and Roger commented:

> It has influenced some parts of the leadership a little bit but not the process. Like I said, the process is one foot in front of the other. (Roger)

> Initially, I would say that it detracted. If there weren't so many positives, then it may have killed the program....[The people writing the letters] sound so rabid that it detracts from their position an awful lot, and I think that that probably has helped us. (Patty)

Two leaders suggested that it may have positively influenced program implementation because it "increased awareness" and provided "more publicity." Anne Lang raised the point that there was no problem because Project WILD, as a supplementary program, allowed the teacher to pick and choose. If it concerned a district adopted textbook or program, then the controversy may have become more of an issue.

The leadership viewed the educational community as the most important barometer of the situation as illustrated below:

> Evidently people have gone up to [the superintendent of public instruction] and have said how neat they think Project WILD is...the teachers are happy and that is what our audience is. (Patty)
>
> I have heard nothing but accolades...no criticism from the educational community. (Bruce Fraser)

In general, the state leadership was aware of the concerns of some animal welfare groups, some leaders spent some time responding to letters, but no one considered the controversy a problem or a threat to implementation.

Support System

Program management and maintenance also involved working with and building upon the Project WILD support system--national, state and local. The coordinators communicated and shared with the national director as well as with other state coordinators. Patty attended the national coordinators conferences each year and believed that they were invaluable for gaining new ideas, understandings and insight. After returning from Seattle, she felt rejuvenated and exclaimed, "Oh, my goodness! What you could do! And what's being done!" Letters to the state facilitators and the reunion were, in part, an effort to create that same reaction within the state.

Evaluation

Finally, program maintenance involved evaluation of the program. This was prompted by the personal concerns of the coordinators as well as by the advisory committee. Funding, however, for evaluation was not included in anyone's budget. Patty's husband provided computer-generated summaries of the participant survey forms (i.e., evaluation forms) for the first two facilitator workshops. He did this without compensation. Later, her husband received a grant from the nongame program to prepare a more formalized and complete evaluation based upon these forms for the first year of implementation. The researcher also received a grant from the nongame program to conduct a survey of first year workshop participants to assess use and needs of the program. In addition, this study contributed indirectly to the program evaluation efforts.

Accurate record keeping of the progress and the success of the program, however, was hindered by facilitators not returning the necessary forms. Originally, it was their responsibility to duplicate forms before the workshop and return them afterwards. Once the problem of a low response rate was recognized (estimated return was 40% at first), copies of forms were included with the books and other materials which facilitators requested for workshops. These forms were used to generate national and state reports of the progress of the program.

According to a national report of all workshop activities between September 1983 and May 1985, the research state ranked 10th among 34 sponsors in the number of workshops offered (N = 45), 5th in the number of workshop participants (N = 1,400), and 6th in the number of trained facilitators (N = 105). According to other workshop summaries, the figures for the number of participants for the research state may have been a little high for that time period, approximately six months, but they did reflect a strong interest in a newly adopted program. A state listing for the first year of implementation (October, 1984 to November, 1985) indicated that a little over 60 workshops and presentations were conducted during that time period. Almost 2,000 activity guides were distributed through these workshops. One Wildlife Agency memo, based upon estimated figures, indicated that the program had the potential to reach over two million students by the end of 1985.

The national director, because of the differences among the states (e.g., population, geography, funding), always emphasized that numbers did not tell the whole story. That is, quantity did not equal quality. The best indicator of quality was reflected by evaluations of the workshops by participants. On the national level, 99% of the participants indicated that the workshop was excellent (72%) or good (27%). In the research state, the combined figure was also 99% (component values were not available).

ADDITIONAL INSIGHTS AND PERCEPTIONS

As with the national level, the marriage between wildlife resource people and educators emerged as a theme. Patty talked about the beauty and advantage of this partnership for her and to the program when she said:

> They have a vested interest in getting wildlife education information out and it has been a beautiful tie-in because they

> have a need to go out and educate...For me to be able to link up with with someone like that--they almost pulled me along. That is beautiful and yet they as wildlife people did not necessarily have an "in" with the school systems. So even though in some ways they are pulling me along, I am able to get them in so they can pull me along.

In the research state, this marriage worked well. The whole program stood on the foundation formed by these two agencies. Roger credited Patty for allowing the partnership to develop. He recalled:

> I credit Patty personally with allowing it to become a positive relationship. From the beginning, it was a recognition that we were the content authority and that we had the potential to add to, to supplement, to be a part of it. A different person in her position could have quite easily turned us off...held us at arm's length....I think her personal attitude had a lot to do with what made it work.

This reinforces fate and the human element as an influential factor in this process. However, even the best marriages have their imperfections, and this bonding of wildlife people with educators was not without its problems--philosophically and perceptually. While Patty recognized hunting as a useful wildlife management tool, she personally did not appreciate hunting. She was concerned about keeping the representation of wildlife and education balanced on the leadership team. She said:

> ...I think we are getting a preponderance of Wildlife Agency people and I don't know that that is excellent. I think that we need to be balanced...
>
> We need to have equity as far as hunters versus non-hunters in our leadership.

To Roger, his bias towards hunting should not have been an issue. He recognized its existence but did not see it as influencing the process in anyway. For example, he explained:

> She is overly sensitive to our bias....When it comes to hunting as recreation, our bias exists. That is the only time it exists. We

> are biased in that we feel that hunting is legitimate recreation and that young people should actually be provided an opportunity to learn about that....The way I interpret "Oh Deer!" should not be held in suspicion because of my bias.

Beyond philosophical differences concerning hunting, the marriage raised another issue. What is more important--content and information or educational process and skills? Regardless of who sponsors an educational program or a set of materials, this is a philosophical issue frequently raised and debated. Traditionally, as discussed in Chapter IV, wildlife agencies in the past had emphasized information and content. Educational trends were emphasizing process and skills. To what extent these were reflected in practice is difficult to determine. Mark stated, "...I'm not sure that all of the people in Project WILD are working as hard at the educational process aspect of it as they are the content of it." He was speaking of the program in the state as a whole. Pam, as expressed earlier, perceived a lack of classroom experience among the agency people. Betty complimented the Wildlife Agency on its willingness to provide information and supplementary materials but acknowledged that she was speaking out of both sides of her mouth when she said, "They have a long way to go to understand what it is that we are doing and what we are about." Jane expressed the concerns of both parties:

> One of the big problems I've also seen in educational programs dealing with wildlife is folks administering them that know nothing about them--wildlife. Some of the materials that have been prepared by folks with PhD's--nature trails--and they don't even recognize muskrat droppings let alone identify trees and the trees stand still. That to me is a problem. [The philosophy that you don't have to know anything to teach about the out-of-doors], you don't have to know animal names, you don't have to know plant names is a very dangerous attitude to have because it doesn't give you any room for going further. There has been criticism about education taking [Project WILD].

> Folks who implement it in the Wildlife Agency by and large are not trained educators...and that is a definite handicap. A lot of Project WILD involved growing on the part of our staff, especially our field staff who has not dealt with teachers in the past....We are wildlife oriented. We are not education oriented a lot of the time. We tend to look at fact rather than technique and there is nothing wrong with facts but sometimes in order to get people to listen you have to use some different techniques...

Some people perceived the wildlife agency and the resource people as more content oriented than the department of education and educators and the latter as more process oriented. Perhaps some tendencies existed in those directions but not clear-cut delineations. The tradition established through WREEC was the bonding of resource management with education and that could be accomplished between agencies as well as within agencies. Through the cosponsorship of Project WILD within the state, the value of the marriage was recognized and supported but with the acknowledgment that perceptions differed and that tension existed at times between the partners, something which they needed to both work on in order to strengthen the bonds that they both prized.

The partnership served as a foundation for the process. When the state leaders were asked to describe the overall implementation process, they most frequently mentioned the workshops, as did the national leaders. In general, the extent of their knowledge and understanding of the process paralleled their involvement with the process--the less involved, the less they knew. Three people had been active with Project Learning Tree and used that as a point of comparison. They viewed the process of the two programs as the same but the leadership styles of the two coordinators as different. In addition to the emphasis on facilitator and teacher workshops, the leaders discussed the use of volunteers and promotion as key elements in the process. While everyone's description of the sequence of actions within the process was very similar, their perceptions of how it worked differed. On one hand it was viewed as structured and on the other hand as unstructured, as illustrated by these quotes:

> ...It is mechanical for the most part...The implementation is a logical step-by-step process...It is a simple concept--use of volunteers to distribute information materials. Someone has to organize the volunteers. We as state coordinators have to do that and that is job one, with or without an advisory group, with or without national guidelines. (Roger)
>
> I find something chaotic in all of that....This whole idea of identifying people and doing workshops and all--the looseness of it bothers me. How it is disseminated--the workshops, volunteerism, and all of that--is the best we can do...It's a matter of attempting to get it out in all regions but really being tied into who volunteers to come [to the facilitator workshops]...and, as I said, the looseness of this just drives me up the wall because then either they respond to requests for the workshops or they say, "Here is a workshop. Do you want to come?"...the whole process bothers me. (Betty)
>
> Right now it has been something that has been driven by demand instead of us going out and offering it on a real organized basis. That is driven by the amount of time that you have, I have, and Roger has. All of us have full time jobs. (Patty)
>
> We basically don't have a plan. We are stumbling along, after our first year, and trying to figure out what we can support financially. (Patty)
>
> If I was standing back looking at it from outside of environmental education, I would probably say, "There they go again." (Betty)

So, while it was a "simple" process which people could easily describe as a whole and its individual parts, it was a process, when put into action, which might not have been so simple. Part of this looseness, chaos, and lack of organization came from limited resources--time, money and personnel. Part of it was inherent in the process itself. A full time coordinator with a staff and budget, however, might have been able to have cleaned up this messy process, perhaps not to the point of being neat, tidy and truly simple, but at least to the point where people were not "stumbling along." Interestingly enough, in spite of the stumbling, the process seemed to work.

When asked how this process was arrived at, only two people directly credited PLT while three said that it was dictated or directed by the national level. This could be claimed as an indirect connection to PLT, but the emphasis seemed to be more on the "dictated" than on the heritage. Others pointed to state leadership, two towards the staff development section and one specifically towards Patty--she decided it. In terms of guidelines and nature of the process, certainly the approach came from the national level--states buy into this process. In terms of interpretation of the process, the approach came from the state level. Roger probably most accurately described how the state level approach was arrived at when he said:

> It sort of matured. Almost anything Patty would say I would accept and say great and almost anything I offered--supplements, plans as they developed--she would say great...and in your [the researcher] involvement and Jane...it was just a consensus of the state leadership--no one ever sat down and said I am going to make a list of procedures....It may have been a blend of chance compliments of personalities, background and abilities--whatever it was, it worked.

Roger was describing the evolution of what came to be called the "leadership team". As previously indicated, Patty started to make decisions which she saw as needing immediate attention. Sometimes she asked me for my opinion, sometimes Roger for his, sometimes other people in her section or network for theirs. As plans for the first workshop developed, Patty and Roger began sharing decisions more. I continued in the same role. Jane helped to facilitate the first workshop, so she became more involved. Larry Fisher, one of Roger's staff members, attended the first workshop and helped facilitate the second. These five people became the constants at all the workshops and in essence began to direct the program--since so many of the activities revolved around the workshops as the key element in the process. As I became more comfortable in my role as a participant-observer, I became more involved and more assertive. As Roger, Jane and Larry became more experienced in the process and with the materials, they became more involved and assertive. Many of the decisions were made by group consensus--five Indians as Roger referred to it once--and it seemed to work.

This, however, was not perceived by others. When asked who makes decisions at the state level, most people saw Patty making program decisions and "higher ups" making decisions about policy, funding, commitment, time and resources. This was certainly true for bottom line responsibility but not in terms of program direction and activities. Roger emphasized the leadership team and Patty the co-directorship. For the national level, people identified with the national director first and then with the steering committee. Since the director served as the contact person, this perception was understandable. Patty explained once that she did not fully understand the role of the steering committee until she observed them in operation at the national conference in Seattle. Prior to that, she thought the director was the decision maker rather than the person who followed through on the decisions. As with the national leaders, opinions varied concerning who made decisions at the local level. Four said it depended on the school district and three said the facilitator. Teachers, building administrators and superintendent each received two votes.

While the teacher was mentioned most often at the national level as the most important player in the whole process, the state level people considered the facilitator the most important because this person influenced the teachers. One person explained:

> Probably the classroom teacher is the key to whether or not the kids learn any of this stuff but the classroom teacher is only going to be as excited as the facilitator encourages them to be. (Pam)

Two thought it was the state coordinator. Both Patty and Roger saw the other person's position as more important. Patty believed that if the Wildlife Agency pulled out, that it would impact tremendously upon the program, but if something happened to her position, Roger would take over. Roger stated that if Patty's position was eliminated, that he did not know if the agency would choose to pick up the whole program or not. This possibly reinforced the need for and the value of the partnership.

Looking again at the overall process, the state leaders were asked which actions or strategies they would rank as the three most important in assuring the success of the program. They concurred with the national leaders--the workshop. While national emphasized the quality of the workshop, the state emphasized the "required" aspect--not giving the books away. Both stressed the benefits of the multiplier effect. The quality materials were again rated second, but the state level focused more on the overall quality and credibility of the program--something worth having and promoting--as opposed to the characteristics of the materials themselves. The cooperation between the two agencies was rated next and then availability of funding and structure and organization of the process.

The greatest strengths of the process were, again, the required workshop, the effective and efficient "multiplier" model, and the high-quality, easy-to-use materials. The involvement of the Wildlife Agency in cooperation with the DOE was mentioned by two people. The greatest weakness according to half the leaders was lack of follow-up. They believed that follow-up should be consistent and personal, reach teachers, and come in a variety of forms. Lack of state wide distribution of facilitators, promotion, and inactive facilitators (i.e., had not done a workshop) were cited as other weaknesses.

In spite of the looseness of the process and its weaknesses, leaders believed it worked. What was it about the process that made them believe it worked? They gave several equally-rated reasons. First, there was a constant demand for the program--people wanted it, they were hungry for it. Based upon research and experience, this inservice model was the best approach to use. Participants said it worked--to the facilitator, on evaluation forms and to others. Finally, the nature of the materials made it work--people did not have to be wildlife experts to use them; the activities were high-interest, hands-on; and the materials were constructed in an easy-to-use fashion.

As with the national level, however, they did not agree on what evidence they could use to say that the program was a "success." Five focused on the teacher, three in term of teachers actually using the materials and two in terms teachers changing teaching styles (e.g., as an alternative to textbook teaching; open eyes to using the environment as a teaching vehicle). Three others addressed achieving numerical goals (e.g., so many teachers per year; numbers of schools reached; used in every classroom). One talked about evidence through descriptive information about how programs have changed. No one discussed changes in students or improved decisions about wildlife.

They believed enough in the overall process that, given the opportunity to start all over again, they would do it the same way--except that three people would like to have had a full time coordinator to direct implementation. Suggested changes focused more upon improvements in, rather than changes to, the process (i.e., addressing previously mentioned weaknesses such as follow-up and promotion). A full time coordinator would have aided in this effort. While Roger ideally would have liked to have been the lead agency and hired additional staff to coordinate the program, he recognized that option as unrealistic. He would have definitely have kept the partnership arrangement because of the credibility provided by the Department of Education. He stated:

> Actually it is hard to find objections to what we have now....The fact that the Department of Education is the sponsor with the help of the Wildlife Agency has helped the credibility with educators. That wouldn't have been the case if it were reversed....We have never been very effective in terms of establishing our credibility with some of the publics....

As already indicated, this process was influenced by a variety of factors. At the national level, what factors did the state leaders perceive as helping the process? No single item emerged as most influential but several were mentioned--national leadership, a quality program that was well packaged and marketed, the inservice policy, and educational issues and trends. The latter was also mentioned by the national leaders. At the state level, the Department of Education emerged as the most important factor. Specifically, it provided funding; leadership, credibility and neutrality; and state codes and minimum standards which required school districts to include environmental education and science in courses of study. Bruce Fraser commented on the advantages to the department sponsoring a program rather than a school district where competition and jealousy could become an issue. He explained:

> There is a lot of difference between a program that appears to be endorsed by the department of education than a program that is endorsed by a local school district. There is a psychological factor and a credibility factor. We bring to the arena what I will call a leadership position of neutrality and it can permeate the entire program.

At the local level, supervisory and administrative support was listed as the most important factor helping implementation as well as a local interest in environmental education.

Respondents identified factors at the national level which impeded implementation. Two factors most frequently mentioned were the controversy and no impediments at all. At the state level, lack of funding was the only item mentioned by more than one person. At the local level, a lack of coordination and organization of Project WILD and a lack of understanding about how the program fit into the existing curriculum were cited.

When asked to state, in their own words, what they believed was the major goal of Project WILD, over half of the responses addressed the idea of interrelationships between people, wildlife and the environment and just under half discussed providing background information and knowledge about wildlife and the environment. Increasing awareness, helping people make informed decisions, and improving environmental education were each mentioned by two people. The process helped to achieve these goals by providing material and modeling.

The leaders were asked if Project WILD fit into an overall environmental education effort. Answers varied considerably. They included: there was no single, overall effort (N = 2); there was a strong effort and it did fit in well (N = 3); yes it did but it fit best into science (N = 2); it was a separate program (N = 1); it had the potential but was not achieving it (N = 1).

In looking at the future of the program, people were asked to discuss the continuing roles of the two agencies. Most people believed that the Department of Education should continue in its leadership position and that it should provide access to the schools and educational credibility through its sponsorship. They believed that the Wildlife Agency should provide resources and supplementary materials and continue its current role. Both agencies should also provide funding. In terms of the longevity of the program, some people believed that it could be around for a long time depending upon the quality and enthusiasm of the leadership people, the commitment from DOE, and changes in the program to keep it fresh and current. While Julie Kruse did see it continuing within the department, Bruce Fraser saw the possibility of it stopping if Patty Beck were to leave. They explained their views:

> Our business is to put in place a structure...It is the organization that carries it on...One of the jobs that we have to

> do to buy into this is to assure that it is a long lasting activity, whether I'm here or you are here or whomever--have a plan...working relationships...contacts...a model... (Julie)

> It is not implanted, it is not an integral part. It is far more person specific than other subjects...And obviously, 5 years from now, all things being equal, the agenda for Project WILD will not be the same priority that it has been for the last two years. (Bruce)

People currently using the program could be encouraged to continue using it by keeping in touch with them through a newsletter or other form of communication and by providing follow-up workshops. New people could be attracted to the program through word of mouth and through teacher education programs. The late adopters might never be reached.

In summary, planning for implementation began before the completion of the adoption process. To prepare for the first facilitator workshop, several people went to leadership workshops in other states. Initially Patty began to make most of the program decisions herself. Then others became involved. She developed a state plan and convened an advisory group as outlined in the Project WILD implementation guidelines. Together Patty and Roger managed and maintained the implementation process of Project WILD, with advice and assistance from others. The first facilitator workshop, which occurred in November, 1984, generated a number of teacher workshops. The process was well under way. Yet, this phase, also, was influenced by many factors including national leadership and direction; knowledge, interest, and skills of key players; support of key decision makers; cooperative efforts; funding; promotion; perceived needs; agency support; time; pressure and support groups; partnerships; PLT; fate and the human element; inservice model; nature of the program; follow-up; external factors; state leadership; and ability to adapt.

Summary and Conclusions

One of the tasks of this study involves dissecting the implementation process and examining and understanding each piece. Many of these pieces, at both the national and state level, are presented in chronological fashion to show the sequence of events, the overlap between and among phases and levels of the process, and the interrelated parts of the whole. In this dissection, the process can appear sterile, procedural and lifeless. It is easy to become so involved in the pieces that the essence of the whole becomes lost. It is important to remember that this process is made up of people and to recognize why so many people were not only willing but, in many cases, striving to become involved in Project WILD--at all levels of implementations.

With rare exception, people who participated in Project WILD spoke highly of the program--the value of its goals, the quality of the materials, the effectiveness of the workshop approach, the merit of the people. Quotes from the interviews, however, do not adequately reveal the emotion in their voices or their animated facial expressions and posture. The smiles, the laughter, the frowns, the puzzlement and frustration all focused on one thing--a program they perceived as positive.

OVERVIEW OF EVENTS

Roots of the implementation of Project WILD in this midwestern state reached back to the developmental phase at the national level--the research state became part of the audience built during development. However, it was not standing at the front of the line. Adoption officially occurred one year after the program's availability from the national level. Six different parties expressed varying degrees of interest in adopting the program. In the end, the Department of Education sponsored Project WILD in cooperation with the Wildlife Agency and with additional financial support from the Conservation and Sportsmen's Organization. Table 12 presents a chronology of key events at the state level which influenced and were part of this implementation process.

Table 12

HISTORICAL OVERVIEW FOR STATE LEVEL

1980	People already interested in the program brought news back to state
1982	Wildlife Agency initiated contact with national director
	National Level informational/promotional materials sent to states
	Wildlife Agency staff twice recommended not to sponsor Project WILD
	People in state continued to promote and lobby for the program

Table 12 (continued)

1983	Series of communications passed between DOE curriculum and instruction and national director regarding program and its status in the state
	Wildlife Agency chief wanted to reevaluate Project WILD
	National informational and promotional materials sent to state
	Wildlife Agency staff member met with national director who evaluated compatibility of agency materials with Project WILD
1984	Wildlife Agency recommended hiring full time coordinator
	Wildlife Agency chief decided to adopt Project WILD; adoption procedures initiated
	Wildlife Agency directed by new chief
	DOE staff development became interested in Project WILD
	DOE contacted national director and then Wildlife Agency
	Wildlife Agency decided not to sponsor Project WILD
	DOE initiated adoption procedures
	DOE coordinator attended national coordinators conference
	Three state leaders attended facilitator workshop in another state
	Wildlife Agency endorsed Project WILD; interested in cooperative effort with DOE
	Facilitator workshop plans began; 100 copies of each activity guide ordered
	State plan developed
	DOE coordinator attended facilitator workshop in another state
	CSO initiated adoption procedures
	Workshop planning meetings began
	DOE and WREEC signed contract

Table 12 (continued)

1984	Revision and development of workshop materials began
	Promotion began
	More books ordered
	First facilitator workshop held
	First teacher workshop held
1985	First and only advisory committee meeting held
	Program managed and maintained

PHASES AND FACTORS

As in Chapter IV, the story of events that transpired at the state level illuminates the workings of the factors which shape the process. Many of those discussed at the national level also appeared at the state level. Others did not. Some factors emerge from the continual unfolding of the account--as each level is fleshed-out, new elements are revealed. Additional factors also originated from the context and circumstances unique to this state. The five phases of implementation presented in Chapter IV again serve as an organizing vehicle for discussing influences upon implementation.

Determinants of Implementation--For the parties involved in this state, a perceived need existed for educational programs and materials in three areas--science education, environmental education and wildlife education. While Project WILD could meet all three needs, people were motivated by their specific need first. Historical influences at this level included prior knowledge and experience with Project Learning Tree and other similar programs, history of cooperation (or lack of) between and among people and organizations, prior knowledge and experience with Project WILD, lack of tradition of involvement with environmental education by staff development section, and tradition of involvement with training by staff development. Developmental influences involved the production of quality materials that appealed to people in the state, the development of guidelines which directed implementation in the state, and people within the state as part of the audience built during development. Promotional information and materials from the national level impacted implementation positively and negatively based upon its form, frequency, timing, and recipient. The whole sequence of events might have been altered if Roger had attended an awareness presentation at a national conference which excited him about the program instead of receiving a routine mailing.

Initiation and Adoption--Availability and appeal of the program significantly shaped events on the state level. Initial reactions to Project WILD by Roger and Patty were opposite each other, one viewing it as complicated and lacking innovation and the other viewing it as exciting and high quality. Support by the adopting agency, which includes both philosophical backing and resources (e.g., funding, staff, time), again contributed to decisions about adoption. The Wildlife Agency was not initially convinced that the program adequately represented its views on wildlife management and consumptive use. Project WILD appeared not to fit the mission of the DOE section for curriculum and instruction, but it was completely compatible with the mission of the section for staff development. Time and money allowed the latter to adopt it while preventing the former from adopting it. The availability of program support from the national leadership as well as assistance from other sources (i.e., cooperative effort with other agencies and organizations) was a positive influence and created a support system which helped to carry the program. Support, pressure or opposition from the community or other groups played a part. People were lobbying for the Wildlife Agency to sponsor the program. Other state wildlife agencies who had already joined were nodding in approval. In terms of adoption, opposition from animal welfare groups was not an issue. Timing, however, was perceived as a factor in terms of who initiated a contract first. The nature of the adopting agency also played a part, for instance, in credibility (education versus wildlife), vested interest (wildlife education versus science education), access to different audiences (education worked mostly with schools and wildlife worked with a wider range of audiences), procedures and polices (handling funds, endorsing programs); and authority and responsibilities (charged with the education of youth, legislative standards). Internal and external politics affected decisions. In this case, a concern by the governor for environmental education influenced the decision to adopt the program and a change in administration at the Wildlife Agency influenced the decision not to adopt. Finally, fate and the human element again impacted the decision. Personal interest in the program led to advocacy on its behalf. A lack of interest by another stalled the program. Being in the right place at the right time makes a difference (a new person in a new position with excellence monies available from the state; a person went to a science conference and heard about Project WILD instead of another program).

Implementation--The overall program goals and needs determined the direction of the program (e.g., providing effective inservice for science education, providing wildlife content information; teaching process skills). The nature of the program (e.g., credible, worth having, organized, met needs) and the required inservice education workshops were viewed as the two most important elements in the implementation. Because educators received free quality materials through an effective inservice program, they became skilled and motivated to use them in an exciting, effective, and educationally sound manner. The partnership between DOE and the Wildlife Agency created more opportunities for the program in terms of ideas, materials, funding, personnel, and networks. Without it, the program may have taken different directions, reached fewer people or different people, or been stymied all together. Agency support from both agencies activated and maintained implementation. Without it, the program simply could not have operated. If the DOE had supported the views of the animal welfare groups and stopped sponsorship of the program, Project WILD might have been completely stopped or have been adopted by another group. Program leadership and support, both from the national level and the state level, facilitated the process of implementation by providing, for example, information, materials, ideas, promotion, funding, follow-up, and other services. Support from administrators and teachers permitted the process to continue. The strength and nature of the existing and building networks and communication channels affected the spreading of the word about the program and how it was being used. It was mostly environmental education people who stood in line. Science and DOE avenues were tapped later. Educational trends, state minimum standards for education, and controversy were some of the external factors mentioned as conditions which could impede or facilitate implementation. Fate and the human element appeared significant, again, particularly concerning the leadership team--the chance blend of personalities, abilities, and skills; leaders willing and able to effectively cooperate with each other.

Incorporation--At the state level, continuation of the program was expected but would be dependent upon leadership (e.g., quality, continual, enthusiastic, committed), program adaptability (e.g., keep it fresh looking), and follow-up with facilitators and teachers (e.g., communication, update workshops).

Outcomes--While the specific outcomes of the program at the state level were not identified, leaders assessed success in terms of numerical achievements (e.g., how many people reached, workshop ratings from participant survey forms) and changes in teachers (e.g., teaching style, practices).

As in Chapter IV, these factors are summarized in a chart which illustrates the interactive nature of the process. Figure 10, the state level, builds upon Figure 8, the national level. Factors with an asterisk were mentioned for the first time at the state level. Some factors appeared only in one phase while others appeared in more than one indicating a thread of influence. For each chapter, these pieces accumulate and fit together as if in a jigsaw puzzle, building a picture, a model of the implementation of Project WILD in one state.

DETERMINANTS OF IMPLEMENTATION	⟷	INITIATION AND ADOPTION	⟷	IMPLEMENTATION	⟷	INCORPORATION	⟷	OUTCOMES
Need		Availability/appeal of program		Nature of the program		Adaptability		Numerical achievements
Historical influences		Adopting agency support		Inservice education		Follow-up		Changes in Teachers
Developmental influences		Program support		Partnerships		Institutionalization		Changes in Students
Program Support		Other assistance		Agency support		*Leadership		
Leadership		Community/group support		Program support				
Fate and the human element		*Timing		Administrative support				
*Promotion		*Nature of the adopting agency		Educator support				
		*Politics		Networks				
		*Fate and the human element		Flexibility				
				External factors				
				*Program goals and needs				
				*Fate and the human element				

Figure 10

IMPLEMENTATION OF PROJECT WILD:
PHASES AND FACTORS AT THE STATE LEVEL

DISCUSSION

The literature again lends meaning to the discussion of implmentation. The state level revealed little new about the role of the teacher and the nature of the innovation; it was, however, at the state level that the **the gap between the "ideal" and "reality"** came into play. The concept of gap may be inappropriate to use with Project WILD since the national leaders not only accepted adaptation but anticipated it and encouraged it through their emphasis on flexibility. If the ideal was represented by the implementation guidelines, then a gap existed. The guidelines identified three main elements: a state coordinator, a state advisory committee, and a state plan. While all three were implemented, only the first came close to the ideal. The second, in essence was nonfunctional, existing in name more than body. It met all the criteria outlined by the guidelines but not the intent behind the criteria. Was the state without an advisory committee? Probably not, in the sense that Patty drew upon others for input. Many decisions were made by the leadership team and through the coordinators' personal networks. These perhaps did not offer the diversity of representation suggested by the advisory committee but they functioned in a similar capacity. The state plan also met the letter of the law and some of the intent. It provided direction more than substance in how to implement the program. However, most of the recommendations pertaining to the state plans in terms of the workshops were achieved. In this way, the gap existed more on paper than in reality. The approach worked for the state and that was the intent from the national level.

Another variation from the guidelines related to the lead agency. Instead of representing the Wildlife Agency, the typical sponsoring agency, Patty worked for the Department of Education. This, however, became a plus in achieving another ideal--the partnership between the resource people and the educator. This bond just seemed to happened. In this way, what worked best for the state came close to what "the best" represented in the national guidelines.

The **characteristics of the adopting agency** played a significant part at the state level. Two main agencies seriously considered adopting Project WILD--the Wildlife Agency and the Department of Education. Within both agencies, a lack of cooperation between different sections seemed to hinder communication and interfere with supportive initiatives and joint efforts. Differences in missions, philosophical backing and perceptions of needs influenced decisions related to adoption and implementation. A program that seemed just perfect for one section was not quite right for another. Credibility within the educational community was perceived as an important characteristic and one more easily attained by the Department of Education. The hierarchy played a part in decision-making with staff decisions completely supported at times, reevaluated at times and overrode at times. Politics reversed the adoption decision in one agency and facilitated the decision in the other. As the source for resource support, the ability to provide time, funding, materials and resource people helped to determine who adopted the program and, later, how the program was maintained. Funding for some aspects of implementation seemed more available than funding for others. The

Department of Education could more easily provide inservice education expertise than wildlife content expertise. Many of these factors related to organizational process and climate which is cited in the literature as one of the most critical characteristics of the adopting agency related to implementation and educational change.

In addition to the workshop approach, resource support was the most important type of **strategy and method** used. Certainly the provision of free activity guides to all workshop participants attracted interest in the program both from individuals and from groups. In addition, the Wildlife Agency offered supplementary resource materials. Both agencies provided funding, personnel, resources and time which supported the implementation. Funding remained a constant constraint but more so in the first year since adoption occurred after the annual budget was approved. The inability to provide the free manuals appeared as a threat to implementation. In addition, time affected early decisions. Patty felt pressed to conduct a workshop immediately and, therefore, made many of the decisions which an advisory committee might otherwise have helped to make. This "quick" implementation after adoption is characteristic of implementation and ignores the fact that change is a process that takes time.

The literature identifies government agencies and outside assistance as **external factors** influencing implementation. With Project WILD, school systems and educators are dependent upon this source for assistance because of the state buy-in policy of the national steering committee. This remained the only way to receive the books. Fullan (1982) considers this arena of assistance positive as long as it is integrated with factors at the local level. Project WILD, in its use of local facilitators, attempted to accomplish this. The Education Commission of the States study identified four conditions outside the education agency which appear critical to successful implementation. These were all present in this case study: state pressure to improve education (emphasis on science education), respect for balance between state and local control (implementation of Project WILD was a local decision), support from political leaders (governor's interest in environment), and availability of discretionary money (excellence money for science). Factors within the department also seemed to be present: political support (higher up administration pushed for program), collegial relationship with local schools (through regional councils), adequate resources (excellence monies and others for inservice), structure and organization (supportive of program), and develop local capacity through technical assistance (workshop approach). In addition, the overall assistance provided through the partnership with the Wildlife Agency strengthened the ability to deal with all of these factors as well as the monetary assistance from the CSO.

While the **role of development** and **historical influences** both contributed to the interest created in the state for Project WILD, they did not appear to be significant factors for the two coordinators, neither of whom were among those standing in line. When first presented with the materials (in draft form), one coordinator did not at first recognize their potential. The other, when first presented with the materials (as a finished product), did. So many factors entered into why they appealed to one and not the other, but development and history were not primary.

Fate and the human element, again, played an important role in this implementation process. One person in a position instead of another, going to a conference instead of staying home, attending one session instead of another, having personal qualities that promote and accept cooperative efforts instead of single efforts, having a chance blend of personalities on a leadership team that enhanced decision-making--these and similar factors undeniably shaped implementation.

CHAPTER VI

IMPLEMENTATION AT THE LOCAL LEVEL: FACILITATORS AND LEADERSHIP WORKSHOPS

Patty smiles as another participant, dressed in blue jeans and a sweat shirt, enters the front door of the state park lodge, carrying her suitcase and a plastic container. Blue skies and morning sunshine foretell of a beautiful spring day. The sign by the registration table reads "Project WILD." After a few warm words of welcome, Patty answers the anticipated questions.

"We'll be able to check into our rooms between five and six o'clock, after our last afternoon session. In the meantime, you can stash your belongings under the tables along the wall in the large meeting room downstairs. We have a separate table out in the lobby by that room for "WILD" snacks. You can put your container there." Patty proceeds to give her a name tag and a participant folder and instructs her to pick up one book from each of three stacks. Magic markers strewn on the table invite the workshop participant to write her name, Paula, on the books. Patty continues, "We'll be starting in the large meeting room downstairs at 10:00. In the meantime, you can settle in, check out the resource tables and learning centers, and start meeting some of the other 'WILD' folks downstairs."

They exchange a few more words. Paula heads for the stairs laden down with all the materials. Another person, having overheard part of the conversation, is already writing his name on the two activity guides and the Workshop Handbook. Roger, having just added a few more Wildlife Agency resource materials to one of the tables, comes to help Patty with registration.

In the large meeting room downstairs, people are sitting in the large circle, formed by sixty chairs, sorting through the participant packet--an agenda, participant list, room assignment list, an animal preference sheet, information on learning styles, information on different kinds of resource materials, handouts for the different workshop sessions, a cross reference of Project WILD activities with the conceptual framework, peer teaching assignment, copies of forms they will have to use and submit as facilitators, a list of Project WILD teacher workshops conducted since the beginning of implementation in the state, suggested adaptations for some of the Project WILD activities, masters for overhead transparencies, a copy of the excerpts booklet, and a list of previously trained facilitators.

Others are milling around looking at the resource tables. Old friends meet and talk. New friendships already begin. The workshop leaders mingle among the people, helping them to feel welcome, answering questions, building the Project WILD support system. At 10:00, Dean, the workshop leader provided by the national level, begins.

"I'm ready. I hope you are. My name is Dean and I'm an interloper...I'm the state coordinator in [another state]. We are going to do something that will get you up but before we get into the activity which is in your folder, how about putting your name on the book....Once you do that, go fishing in your blue folder for a single sheet on the left hand side that says identifying animal preferences. This is a WILD workshop. We thought we'd get right into the animals."

The participants find a form which has blank lines next to 44 phrases including:

I prefer...
1. Cats over dogs, if I had a pet.
3. To look at animals in the wild rather than in the zoo.
7. Not to see spiders at all.
12. To photograph wildlife rather than hunt or fish.
14. A chickadee to a crow.
26. To hunt bears but not deer.
40. To use pesticides rather than lose a tree to insects.

"Many of you have seen this kind of activity before. It involves getting up and meeting folks so it has a dual purpose. One is to get to know who is here if you don't know everyone and the second is to get a little peek into what they prefer. A little peek into their values about some wildlife issues." Most people have their sheet in hand.

"Have you got it? So you are moving. Forty-six seconds is the average stay at each person. You might want to explain the reason behind your preference. The point is, get around to as many people as possible....Are there any questions? O.K.. Go."

Some people jump right up. Others hold back a bit and then turn to someone near at hand. Others watching for a few moments are soon approached.

"Do you prefer anteaters to ants?"

A middle aged woman slips into a group of three to four people. "What do you prefer that hasn't already been signed on mine?"

"I'd rather not keep pets at all."

The noise volume in the room, at first quite low, has now increased significantly. Dean soon calls everyone back together and makes a few comments about the activity. Patty introduces herself.

"I am the basic coordinator, with the help of Roger Hirsh, and I'm with the Department of Education. So far we've been really excited at the call for Project WILD materials. There has been almost no publicity and so today I'd like to show you where you all are coming from." With a state map projected on the screen, she shows the distribution of facilitators, indicating areas of concentration and areas which are sparsely represented. A brief overview explains how the state became a sponsor for the project and the commitment to providing books only through workshops.

Paul provides more background. "It finally came to be as the result of a very good cooperative effort between the Department of Education and the Natural Resources Commission with assistance from the Conservation and Sportsmen's Organization...We are just getting started and we are very excited about it and I think that excitement will be catching as we move through the next few days and do a workshop that might serve as a model for you in planning workshops when you go back to your different locations...The Wildlife Agency looked at Project WILD and said, 'Wow, we don't have anything like that...' We know that teachers are going to come to these workshops. We know that most people recognize the fascination that wildlife holds for young people and if we can in some way use that fascination to teach additional things--teach conceptual things that we feel are important--here is a tool that is going to be important to us. We see that enthusiasm perhaps as a vehicle for our bias in terms of the role of wildlife and in the conservation of wildlife. We are willing to provide participants with all kinds of supplemental materials eventually....The first supplement that is available to you as a workshop facilitator would be an introductory slide program that tells the newcomer what Project WILD is, what it is all about, where it came from--how you fit into the Project WILD materials and activities."

After the slide show ends, people ask questions which Roger and Patty answer. Roger leads into the next session. "What we are going to do today is play games. Adults like to play games, too. They are games with a purpose....Everybody kind of adapts the activities to what they want to accomplish. We want to get you up and moving again so we are going to adapt an activity called "Animal Charades." You are to act out the wild animal that has been secretly labeled on the back of your name tag. When we begin the activity, we would like you in some way to perform a charade that would indicate to any of the group just exactly what it is you are. As you determine that there are others like you in the room, then we would like you to group up. There are three groups. You may begin."

Much more quickly than the first time, people rise up from the seats. Several immediately drop to the floor and begin hopping around, looking for others who perhaps are feeling as foolish. Flapping arms attract the attention of another who is swooping past the hoppers. Laughing, one cluster of people sit down on the floor, knowing they represent one of the three groups. Two people with their hands pointing up from their heads like antlers pretend to butt heads. Eventually three groups form from a nearly silent chaos.

Paul explains, "We are going to create an extension of the charade activity. We are going to ask you as a group to perform a charade for the remaining two groups. As a group, we want you to get together and brainstorm a scenario which perhaps would demonstrate your relationship as an animal with your ecosystem. The remainder of the groups will attempt to guess what it is that you are charading. You have about ten minutes to plan."

People tentatively begin to toss out ideas to their groups. Soon, in an effort to help visualize their ideas, people start to perform for their own groups. Someone asks Patty for some construction paper and tape. She quickly provides the necessary props. One groups goes out to the lobby to practice in seclusion while another decides to change ideas completely. Eventually, Roger calls the groups together and asks for a volunteer.

The hoppers come to the center of the circle but space themselves out in four groups from one side of the circle to the other. Everyone sits still on the floor. The first group begins to hop about. A red-headed male hops over to a blond female and climbs onto her back. The room fills with laughter. The people in the second group roll up into balls. They begin to shake a bit, stretch out flat, and squirm across the floor. As the third group starts to hop, people sitting in the circle start to guess what the group is. "Fish." "Life cycles in a pond." "Bullfrogs." The mating frogs and tadpoles give signs of encouragement, indicating that they are on the right track. People are talking and laughing. The remaining people in the group start to fly around. A hopping animal sticks out its tongue to catch the fly. "You're frogs--metamorphosis!" The group stops its antics and everyone returns to their chairs amidst reinforcing applause.

A brief discussion of the major concepts depicted in their charade ensues. Then the hawks fly in, red tails flapping, beaks open, and talons outstretched. After all the groups perform, Roger and Patty begin the debriefing discussion. "We would ask you to consider what works and what doesn't work. How might I apply this to a situation that I might be involved in as an educator? What grades could I use it in? With what subjects? How might I modify this activity?

The ideas and suggestions flow spontaneously from all around the room. "It showed the interaction between animals." "You could do something on natural history and population changes." "It was great for small group dynamics. You had to work together..." "The problem solving was the most important part." "I was wondering maybe in a classroom if you couldn't do it twice. Do it again the next day as a planned skit or for another classroom." "Yeah, that would be great to help break up the day."

The discussion continues and is finally drawn to a closure by Roger. Dean asks everyone to meet him outside on the hillside next to the lake. "All you will need is paper and pencil and something to write on." People start to meander out the door, talking about the activity, checking on what materials they need, interacting in a way which only an hour and a half ago might have been unexpected.

As lunch time approaches, Dean sets the stage for the next activity by reading to the group from "The Other Way to Listen." Some sit, staring quietly at the ground. Others, lying on their backs, watch the clouds and trees. Some close their eyes. Words drift in the springtime breeze. "I used to know an old man who could walk by any corn field and hear the corn singing...'Were you surprised to hear it?,' I always asked. He said, 'Not a bit. It seemed like the most natural thing in the world.'"

When he finishes the book, Dean gives them directions for writing a poem within their groups. The leopard frogs are sent down by the lake shore, the white-tailed deer into the thicket, and the red-tailed hawks to the top of the hillside where they can view their prey better. They spend quiet time imagining themselves as those animals in that habitat. They return inside where one group writes several group poems, one group subdivides and writes several poems, and the other group seems to struggle, saved finally by one member who completes the task. After sharing their poems with the whole group, they again debrief. An elementary teacher says, "I would figure it would be necessary to do this many times with kids, a number of times to get kids to begin to feel this." Another reinforces, "With any sort of creative activity it is hard to expect everyone to be in the same mood at the right time. And that is one of the prices you pay for structure." When the discussion dies down, Dean and Patty tape the poems to the wall as everyone finds their way to lunch.

After lunch, to pull the group back together again, Diane leads them in "Habitat Lapsit." She directs them step-by-step to form a very tight circle, to turn to their right, to place their hands on the person's waist in front of them and to touch the toes of their shoes to the heels of that person. "I'd like you to count off by saying, 'Food, water, shelter, space, food water, shelter, space, food...'." She continues to orchestrate the group in preparation for the big moment. "On the count of three, you are going to slowly sit down on the knees of the person behind you." Protestations, laughter, glances backwards to check on the size of the person, and then silence. "One." Anticipation. "Two." Already knees are bending. "Three!" Sixty people slowly lower themselves to the point of sitting together, in a united circle, with no support other than their own bodies--a demonstration of the four components of habitat in a suitable arrangement. The activity continues. The discussion follows.

The next activity, "Oh Deer!," finds the people in a "red rover" type arrangement, deer running down the field in search of food, water, and shelter--the most often used activity in Project WILD.

Afterwards, Diane gives the directions for the rest of the afternoon. The frogs start in the Terrace Room with Roger and Patty, the hawks go with Dean to Ballroom A and the deer go with Diane and Jane to Ballroom B. Every hour they rotate to the next leader who repeats the same activities with the new group.

Roger and Patty's room reveals small groups crouched, over their tables, dissecting owl pellets. "We've got a skull with the teeth still in it!"

Strange noises filter in from outside. "Naaaaaaah," signals the muskox cow. The cows quickly form a circle around the calves to protect them from the wolves. A wolf grabs a bull's red flag, killing the animal. Dean backs away as another bull bears down upon a fleeing wolf....

Across the hall, crayons, markers, chalk, and colored paper clutter the tables. As a park naturalist holds up a drawing, she begins to explain, "This is a bureaucrat bird. It lives in a state department office and nests in the "out" boxes--sometimes in drawers if its preferred habitat is polluted by an excess of forms in triplicate. As you can see, its coloration is very drab to blend with its institutional surroundings. The beak is shaped like scissors to cut through all the red tape...." Jane and Diane both smile, knowing how people so often complain about art activities and, yet, "Adaptation Artistry" sparks creativity in even the most reluctant.

"Thicket Game" now finds Roger's group hiding in the woods from their predator, the hawk. Dean sends his group out in pairs, each with a "task card" in hand--ten minute assignments which capture the essence of a number of different Project WILD activities. Black bears forage for berries, nuts, insects and other food to help Jane determine "How Many Bears Can Live in This Forest?". Each activity is followed by a discussion of how they could go home today and use it, how it would fit into their curriculuml how they would change it to work with different grade levels and with students with special needs. Ideas seldom come slowly but burst forth at the end of each activity. Suggestions for adaptations abound.

Before the last concurrent session, people gather around the snack table eating monkey cookies, gorp, kelp, wild strawberry jam on crackers, venison sausage, dandelion greens, black walnuts, as well as the more traditional apples, popcorn, brownies and cookies. Conversation comes easily. Bonds form. Ideas spread. Resources are shared. Support systems are built.

The group reconvenes after dinner. On the front wall, seven sheets of newsprint hang, each one bearing a concept from the Project WILD conceptual framework. Under the concepts are listed the titles of all the activities the group participated in during that day. A quick discussion reveals how the activities move from "awareness" through "knowledge" to "action"--the goal of Project WILD.

Dean provides a short session on learning styles, emphasizing the wide variety included in Project WILD and the educational importance of teaching to the variety of styles represented in a classroom. A simplified instrument helps people see what their learning style might be.

The evening ends with people on their way to the pool, the bar, their rooms, the snack table, the resource tables and elsewhere. The next morning finds some of the participants outside at 7:00 for a bird walk with Larry.

Breakfast, as with all the meals, finds the leaders seated at different tables, nurturing those bonds that will later pave the way for these facilitators to pick up the phone and request supplementary materials, order books, or ask for help--bonds which also help to cement a commitment to go back home and conduct a teacher workshop.

After breakfast, Dean starts, "Everybody ready to begin? We thought we would take a short time to talk about a nationwide controversy that was generated last fall. As facilitators, you need to know about it. But keep in mind that I'm still convinced that what we have here in Project WILD is one of the best, if not "the" best, efforts at curriculum supplement work that ever existed. It has caught on like wildfire and it continues to spread, but as facilitators you need to know exactly where we are in terms of some people who are saying, 'Hey, this is not really a balanced view of all the philosophical positions that exist.' In fact in some states they have picketed workshops such as these....I think you should tuck this away in the back of your mind so that you are prepared to counter some of the opposition."

He proceeds to give the background on the controversy. To help each individual visualize the issue, he instructs them to stand along a continuum, with one end of the room representing wildlife management in its extreme--a professional hunter with a Ph.D. in wildlife management--and with the other end of the room representing preservation--someone goes to extreme lengths to save a lone bird. People line up all along the continuum with a bulge in the middle and another but smaller bulge near the wildlife management end. "This shows that even in a group where you might expect everyone to be aligned on philosophical issues, we are not...As educators, as people helping others learn and think clearly about their values, I think we need to respect both extremes and both positions--even though we know that we are not aligned that way."

A lengthy discussion follows. The morning continues. Roger facilitates a discussion of wildlife issues in the state which addresses deer management and differing perspectives. Afterwards, the group works in clusters of two to three people to complete a 20 minute activity sheet called "Project WILD Guide Safari" which familiarizes them with the contents of the activity manuals. They begin to work through questions including:

2. What two organizations are the primary sponsoring agencies of Project WILD at the national level?
8. What are some of the educational benefits of visualization or guided imagery as described in the activity, "Stormy Weather"?
17. On what page can you find a list of indoor and outdoor WILD activities?
20. What is the concept labeled III.A.3 in the WILD conceptual framework?

After the group indulges in more WILD snacks, Patty initiates a discussion on how to integrate Project WILD into the curriculum. "If you bring a new curriculum to teachers, one of the answers you are going to get is, 'I'm really sorry but I don't have time to use these materials, these activities. I am told what I have to teach in my classroom every day, every minute, and it is all I can do to try to get through as much as I can. So I really don't have time for this.' Where are they getting this position statement from? It's basically from the state and the new minimum standards....All you have to be able to do is to get into Project WILD and say, 'We do have something in here that will help you do what you are being mandated to teach.' You can help school systems do what they have to do."

After using the transparencies included in the participant folder to elaborate on these ideas, she says, "I would like you to look at a course of study. I want you to flip through it, and just from the activities that you have seen already and going through your book, I want you to see if you see anything that you could match up with." Again, in pairs, they tackle the task. Few have problems finding the correlations.

"The next section of the workshop is our favorite," Diane begins enthusiastically. "From now until 1:30, you will plan your own Project WILD activity to present in a small group. If you look in your folder, the directions are outlined for you on the pink "Peer Teaching" sheet. Here's how it works. You'll notice that your name tags come in different colors to let us divide you into different groups. All the "reds" will go with Jane, "blues" with Patty and "greens" with me. We will divide you again into four groups based upon your teaching or work areas. In these smaller groups, you will plan an activity to facilitate in your group. That is, 4 people will teach 12 people. You will want to identify your audience first. Will it be elementary teachers, secondary science teachers, scout leaders, a mixed group? Then pick an activity that would be appropriate for that audience. We have boxes of materials for you to use--construction paper, poker chips, newspapers, magazines, blind folds, markers, and other useful paraphernalia. You'll have 15 minutes to teach and 5 minutes to debrief. The idea here is to give you an opportunity to try your own hand at doing one of these activities. Because of time, you will only be able to give us the flavor of the activity, but that is O.K. On the pink sheet we've also listed some of the questions you may want to ask during your debriefing. Any questions?"

After clarifying some points, the people divide into their groups and begin planning. That afternoon appears very much like the day before--except the participants lead the activities instead of the workshop leaders.

After the peer teaching and the last of the WILD snacks, Patty asks, "How did you feel about your peer teaching? Did you feel it was one more step toward being ready to go out and be a trainer, a facilitator?" Heads nod and words of approval issue forth. "That's what we meant for you to feel. Now I want you to take out your Workshop Handbook and read it with me. These are some very, very basic things that you absolutely need to know as a facilitator. These are the questions and answers that are asked most frequently." She proceeds to explain the different levels of workshops and presentations, when to give out activity guides and when to give out excerpts booklets, the workshop guidelines, putting together an agenda, ordering books, using an educator-wildlife team, processing the necessary forms and many other logistical items.

In the last session, participants break into regional groups to become more familiar with people in their areas and to tentatively plan their first workshop. Patty asks them to submit a workshop proposal form based upon their discussion along with their workshop evaluation form.

The walls of the large meeting room are papered with poems, drawings, wild words, diagrams and posters--artifacts of a WILD workshop. For the closing session, everyone stands in a circle. Jane begins, "We've had a very long day. I think a very productive two days. It seems sort of anti-climatic to say, 'Well that's it,' and everybody run off. Some of us like to slip into the night. But tonight, just take a couple of minutes and reflect back on the experiences we've had here and some of the people we've met. We've all made lots of friends and acquaintances and we want to reinforce that. As I call your name, please step forward and someone will say something positive about you. Let's begin with Maggie."

Maggie inches into the circle. From the other side, a man says, "Thanks to Maggie, I got to eat my first monkey cookie. I'd like to take some home to my wife and kids. They may never believe me." Others laugh and agree.

"Steve."

The blond from "Animal Charades" teases, "He makes the best mating frog!!"

The names, comments, laughter, smiles and warm sentiments continue. At the close, many people personally thank the workshops leaders for "one of the best workshops" they have ever attended. All leave with words of encouragement and most with a feeling of confidence for doing their own workshops back home.

Overview of Facilitator Workshops During the First Year

The workshop functioned as the heart of implementation, pumping the life force into this process. People at both the national and state levels indicated that they considered the workshop as the most important implementation strategy and the greatest strength of the overall process. They believed strongly that the workshop increased the probability that the materials would be used and used more effectively.

While the previous depiction accurately portrays the major components, general sequence, dialogue and climate of a Project WILD workshop, it represents a composite view of the three facilitator workshops conducted during the first year of implementation. This section summarizes, compares and contrasts these workshops and traces their evolution during that time period. This is followed by an overview of the facilitators who participated in this study, a description of the facilitator workshops from their perspective, an overview of the teacher workshops, and a discussion of the findings.

FIRST WORKSHOP

As discussed in Chapter V, plans for the first workshop began during the summer before adoption was complete. People were waiting in line for it. Little publicity was necessary. The workshop leaders included Scott Ladd, Patty, me (as participant-observer), Jane and Pam. While Roger and Larry both led sessions during the workshop, they also participated as workshop attendees. They had not gone to another state first to be trained. In addition to people who signed up for the workshop, the DOE sent a number of staff members. The Wildlife Agency also sent a number of education officers. One person estimated that 40% of the participants were members of the state's major outdoor education organization. Certainly many of them were. The workshop was held in November of 1984, at a state park lodge which was fairly centrally located within the state.

This first workshop exhibited all of the major parts of later workshops--getting acquainted session, overview of the program, the role of the DOE and Wildlife Agency in the program, a variety of activities led by the workshop facilitators in concurrent sessions, learning styles, peer teaching, the controversy, wildlife issues in the state, integration of Project WILD into the curriculum, mechanics of conducting a workshop, and evaluation. In few other ways, however, could it be compared to the other workshops.

It began at 5:00 PM on the first day. After dinner, everyone went to the large meeting room and sat at tables arranged in classroom style, all facing forward. After an overview of the program, all sixty people stood up, individually, and introduced themselves. At the end of the evening, a participant and friend approached one of the leaders, who was also a friend and said, "Where's all the positive vibes? We're not on the floor, we're sitting at tables." He was referring to the PLT workshops and other workshops they had attended together.

Immediately after the close of the evening, the workshop leaders met in Scott's room to debrief the first evening. He began, "Are the troops getting what they came for? Do you think the plan we've got going is going to give them what they are after?"

In a professional, friendly but somewhat painful two-hour meeting, we determined that they were not, why not and what to do about it. Prior to that afternoon, the leadership team had never met and discussed the workshop. Everyone assumed that someone else was taking care of the different details. Unknown to everyone, Patty had never planned and conducted a teacher workshop before. She was relying on

Scott and Scott was relying on her and everyone else was relying on both of them. Some basic ideas had been worked out between Scott and Patty, with some general input from the others. Each facilitator received a list of activities representing the seven concepts in the curriculum framework. The expectation was that each leader would facilitate half of these activities with one-third of the participants and then change to another group in the afternoon and do the other half of the activities. Beyond that, nothing else was communicated. No one really planned the details--details which create a positive climate, guarantee a smooth operation, and lead to participant satisfaction.

We quickly decided that the biggest problem that evening was that we had not done a single Project WILD activity. Comments included:

"Until you experience it, it just works on paper."
"You think we should start and then talk?"
"I always start with an activity first."
"A lot of them have been to PLT and they've just been waiting for this."

After brainstorming a number of ideas, we decided to begin the next morning with "Animal Charades." It accomplished the goal of bringing the people together as a group and involving them immediately in an activity. It worked so well that by the second workshop, "Animal Charades" was automatically the first Project WILD activity. It also became the mechanism for dividing people into groups. By the third, it was "the" opening activity, setting the stage for the rest of the workshop.

Other problems with the first workshop revealed themselves the second day--not enough food for breakfast and lunch, no food or beverages for breaks, an "eat on your own" supper which brought everyone back late for the evening session, not enough workshop materials (e.g., markers, newsprint, tape), an ineffective method of splitting people into groups, and no pre-workshop site visit to plan for outdoor activities. Most of these kinds of concerns were noted and remembered for the next workshop. Others were addressed at another staff meeting at the end of the second day. It was from this meeting that the idea of listing activities by concepts on flipchart paper evolved as a way to help to tie the program together and to reinforce the conceptual framework without spending too much time on it.

The last day had too much of what Patty called "talking heads." At a final staff meeting, the consensus was that the workshop was good, not great, and that the things that went "wrong" were a matter of misunderstanding, not anyone's fault. For example, Scott said:

> I would say we accomplished exactly what we set out to do....I think the responses of the audience were very positive here. I read some of the evaluations. There were some things that people said that gave us a little insight into them that we didn't get during the process. Most of the responses were good rather than outstanding. There were a few that were below but most of them were good....And I agree with them--it wasn't the best workshop I was ever at either. There were some things lacking. But I think those will be taken care of the second time. The facilitators will have worked together. The sponsor will know what is going on.
>
> No, it's not a fault. We need to know who is going to do every item. These kinds of workshops die or rise or fall on those little details--and now you know that.

SECOND WORKSHOP

If the first workshop was characterized by a lack of preplanning, the second was characterized by extensive, detailed preplanning. If the first was characterized by extensive staff meetings during the workshop to iron out problems, the second was characterized by brief meetings to touch base and see that all was well.

The second workshop was held in March of 1985. This time, nothing was overlooked. While it was held at the same state park lodge, it occurred over two full days instead of three days (an evening, a day and a morning). This was a monetary decision--not as expensive to pay for one night as two. People were charged a $25 registration fee to help defray meal costs. Hearty meals were provided and people brought "WILD" snacks to go along with beverages during breaks. The staff provided ample workshop supplies and materials.

Patty, Roger, Jane and I met for over two hours to revise the draft agenda which Patty had already prepared and to iron out the details of who was going to do what. Specific tasks were identified with specific people assigned to follow through. Some of the discussion focused on details:

"We could do a fox, a rabbit and a red-tailed hawk."
"What about a sparrow hawk and a grasshopper?"
"Bullfrog."
"Earthworm."
"Are we going to do some color coding like yellow-bellied fish or something?"

Some of the discussion focused on philosophical issues:

"Dean wants to be sure to cover the conceptual framework."
"I really haven't seen utilization of the framework at the teacher workshop level."
"Simply because it is not being used in the workshop doesn't mean that it shouldn't be."
"Or that they shouldn't be familiar with it."
"We can make them aware that we think it's important and then they are going to go back to, 'Oh, this is dumb.'"
"My motivation would be to make Project WILD activities so interesting and so colorful that they can't help but want to use them--even if they choose to ignore the seven concepts."
"These are the people who are going to go talk to school boards. They have to have a more in depth understanding..."

Some of the discussion focused on developing an agenda:

"See, that's what I'm wondering. Whether or not you want to each do two to three activities or do you want to do all the activities like we did before?"

"I'd rather do three."

"Do three concurrent sessions but this time the people rotate through them."

"And they experience three facilitator styles and they get probably nine different activities."

"I think that's darn good."

So many details and concerns were covered the second time--tending to people comforts, selecting content topics, changing the pace, mixing people up, using large groups and small groups, selecting specific activities, working indoors and outdoors, meeting individual interests, improving the resource tables. These details had been left to chance the first time. Very little of the discussion addressed components of the workshop--the major parts remained the same. After the meeting, I wrote in my field notes:

> For the first workshop, there was very little preplanning by the facilitators....This planning meeting was almost too detailed. We were getting into nitty-gritty things that a staff member should be able to take care of. But I feel pretty good....It will be interesting from my perspective to see what the changes are and what impact they have.

The most immediate impact was upon the quality of the workshop. The facilitators felt better about the second one. Their feelings were confirmed by the evaluation forms handed in at the end of the workshop by the participants. One question asked them to indicate whether the workshop was "excellent--one of the best I have ever attended," "good," "okay, but it could have been substantially improved," or "not particularly good." If "excellent" equals "4" and "not good" equals "1", the first workshop was rated "3.26" or 82% and the second workshop was rated 3.8 or 94%--a marked improvement. On another question, they were asked to indicate what was the best feature of the workshop. In the following, the first column represents the percent of people at the first workshop who circled the item and the second column is for the second workshop.

	1st	2nd
The staff	53%	88%
The Project WILD materials	92%	94%
The instructional strategies	33%	67%

When asked to indicate how the workshop could be improved, they responded as follows:

More hands-on	24%	<1%
More on how to use	16%	<1%
More background	14%	18%
Other	45%	22%
None needed	12%	43%

While other factors probably influenced the improved ratings for the workshop--differences in the nature of the audiences, the national leaders, the facilitators--the increased attention to planning was probably the most significant factor contributing to the differences between the two workshops. My field notes at the end of the first day started with:

> What a difference!!! It's incredible what experience, group preplanning and learning from mistakes can do....Dean is also a significant difference--different personality, low key, humanistic approach...

THIRD WORKSHOP

In terms of overall format, the third workshop, held in October of 1985, was essentially identical to the second. It was held at a different state park lodge, one which was not as centrally located within the state as the first lodge. The workshop was facilitated entirely by state leaders since we had already used the two national level facilitators provided under the original contract. Larry joined the leadership team, participating equally with the others. It was the first workshop that required a concerted effort at promotion. Patty was initially concerned that it would not be filled since the response rate was slow.

Changes entailed "polishing" and "enhancing" the workshop rather than altering it--providing more resources, stressing the materials in the participant folders, emphasizing the importance of returning evaluation forms, modeling the use of the new supplementary materials, and placing more emphasis on incorporating Project WILD into the curriculum. While the latter was not a new idea, we used a new approach. Mark Parish led the session and placed a stronger emphasis on the understanding and use of courses of study. New workshop ideas were also tried--developing learning centers, sharing a "zany" idea, inviting two newly trained facilitators to do the session on learning styles, and teaching the whole group to sing, "To Be WILD." My field notes after the planning meeting stated:

> Patty came prepared with a draft agenda and other information. Roger had all the past information which helped to clarify points about what we did before. The meeting went quickly and smoothly--no need for major policy/philosophy kinds of decisions. We really have our act together.

Even with our planning and additional experience, the workshop was not without its problems. The major topic during the leadership debriefing session was the "personality" of the group. They seemed to have less spark and fewer innovative ideas than previous groups. Quite a few of them were classroom teachers who were frustrated by what they perceived as unnecessary requirements and accountability procedures related to graded courses of study. One woman said, "I don't know why they won't just let us go back to teaching." Patty stated once, "They are so full of I can't's--I can't do this or I can't do that."

This attitude seemed to color the workshop. We worked a little harder at trying to draw the people out but also recognized it as a different group. In reflecting on the workshop two days later, Patty commented on how many people had come up to her afterwards saying that they enjoyed it and that they felt they could use it. She summarized, "I still have a good taste in my mouth...but I certainly got the feeling that we were pulling the elephant by the tail and it was lying on its back saying, 'No, no, no.'"

Patty and Roger experienced some tension between each other. One problem was that Patty kept referring to the Wildlife Agency as NRC, the umbrella organization. Since the Wildlife Agency funded all its own programs, it did not like the umbrella organization receiving the credit. Roger had asked her to be more careful with her references and felt that she was not being attentive to these concerns. Patty felt that as Roger gained more confidence, he was forcing his opinions to the point of cutting off discussion. Their differences of opinion on hunting also came up at one point. These issues in the big picture were insignificant, perhaps just a part of the growing pains as the cooperative effort matured.

Other topics were discussed but simply in light of "polishing" the performance for the next show. We did not like the facility and decided not to use it again. We wanted to be sure to set everything up the night before to have more time to welcome people as they arrived. We talked about having a better closing, a separate session on supplementary materials, and a stronger introduction.

The evaluations were almost as strong as the second workshop (i.e., 3.7 out of 4 for a score of 92%). The leaders did not perceive any major kinds of problems. All in all, the workshop went well and the model was established for future ones.

REUNION WORKSHOP

Reunion workshops were a popular follow-up activity in other states. Initially Patty thought it would be a great idea to couple it with the third workshop and have the "old" facilitators share with the "new" facilitators. Patty described the idea:

> On October 1, the new people will come in like they did for the last training. We will have one morning and afternoon with them without any of the old people. Then the old will arrive in the evening and then stay all during the next day. We are going to have to work out a schedule that will help us to get the new people at least somewhere near where the old people are. The old ones can share the kinds of things that will really help the new people so they can learn from the others. I think that sounds wonderful.

The idea appealed to everyone until time constraints became a reality. It would have meant completely rethinking our "model" workshop, which we perceived as working so well, and probably involving more staff to cover the double agenda. The logistics of trying to do that and an initial low response rate persuaded us to do a separate workshop which focused on a unique natural area, rich in wildlife. The facilities were rustic but comfortable and provided access to a national wildlife refuge.

In a memo announcing the details for the November, 1985, update workshop, Patty identified some of the key topics to be discussed:

> Please read the agenda as attached and plan to bring resources which you integrate into WILD as well as think about: 1. What makes a successful workshop? 2. How do you promote a WILD workshop? 3. How could you make WILD work at the secondary level? 4. How has WILD been integrated into the curriculum? Bring questions or issues which you would like to discuss. This is our chance to get revitalized.

The agenda for that meeting included a round table discussion on some of the above topics, a session on learning styles, a morning bird walk, a session on how to integrate Project WILD, a field trip to the refuge, a field trip to a power plant, and a sharing of resources. It represented both content and process issues, a goal identified at an earlier planning meeting.

Not very many people attended the update (21 signed up and 17 attended, including the leadership). Why so few attended was unknown. The announcement was mailed in early September. Most of the explanations we heard addressed previous commitments and the fact that it occurred on a weekday rather than a weekend. People seemed to support the concept of a reunion workshop; however, in competition with other priorities, it perhaps filtered down the list.

The agenda was loosely followed. The emphasis throughout was on enjoying the people, the time together and the natural area. Indoor sessions involved brainstorming and sharing. The result of one of these was a list of suggestions in response to the question, "What makes a successful teacher workshop?":

1. Avoid required inservice programs.
2. Ask what the participants need and why they came.
3. Timing--Keep the schedule going.

4. Give college credit--leads to increases in teachers' salary. Cooperate with a university for this and also to work with preservice program.
5. Give them relevant materials to take back to the classroom and use the next day.
6. Use activities which are flexible--fit a variety of situations, will work for a substitute, for a rainy day or gym day, for different class size.
7. Plan time in the workshop to allow teachers to choose activities which they can use in their classroom the following day.
8. Provide the opportunity for participants to peer teach during the workshop, allowing no more than 20 minutes of planning time.
9. Promote workshop well.
10. Organize ahead of time and communicate with people prior to workshop, especially concerning appropriate attire.
11. Facilitators must keep up their level of enthusiasm.
12. Use more than one presenter/facilitator when possible.
13. Try to hold an awareness session for participants and allow them to request more before getting into a 6 hour workshop situation. Also do demonstration teaching sessions for teachers to entice them to come.
14. Feed your participants well by giving good lunch or snacks. If money is limited, have them bring a "WILD" snack--a very successful activity which has added a lot of sharing of recipes, ideas and good food to the agenda.

This list was sent to all facilitators. Another "product" from the reunion was a draft letter which could be sent, upon a facilitator's request, to her or his school district from the Department of Education. In essence the letter stated that such-and-such a person had attended a Project WILD workshop and was now available in that district to conduct inservice programs. It encouraged the district to utilize the person's new expertise. This letter was later provided at all facilitator workshops.

Some discussion also focused on the advantages and disadvantages of a split workshop (e.g., two three-hour sessions) over a six-hour workshop. Some participants believed that the split session provides a great opportunity for participants to try an activity with children and come back and share the results and receive some feedback on what occurred. It also provides the opportunity to think about the program and come back with questions and reactions. Others believed that this approach breaks the momentum gained in a six-hour workshop.

Everyone agreed that secondary level workshops were difficult and had few suggestions for how to approach them differently. The most concrete idea was to focus on teachers of biology and life sciences, language arts, and social studies and to avoid chemistry, physics and higher level math.

No formal evaluation of the reunion workshop was done. The leadership team felt that, even with the small group, the workshop proved worthwhile in that we observed lots of sharing and interaction, which was one of the prime purposes.

SUMMARY

The workshop was the driving force behind Project WILD. During the first year, three facilitator workshops were conducted, although the last one actually marked the beginning of the second year of implementation. In addition, as a follow-up technique, a reunion or "update" workshop was also provided. While the content of the workshops remained essentially the same throughout the three, the process changed and evolved. The later workshops were characterized by more attention to organizational and managerial details as a result of preplanning. While the skeleton of the workshops remained essentially the same, different personalities emerged as each was fleshed-out by circumstances--the people, places, leaders, facilities, seasons and moods.

The next sections present an overview of the facilitators who participated in this study, their perceptions of the leadership workshops, and a discussion of the teacher workshops that flowed from the facilitator workshops.

Overview of Facilitators

In order to gain the local perspective, 14 facilitators were interviewed. "Local" varies upon each person's job responsibilities and willingness to become involved. Typically, it might represent one school district, city or county, but could be as limited as one building and as extensive as a quarter of the state or more. Of those interviewed, 5 of them attended the first workshop and 9 the second. At the time of the interview, everyone had used the Project WILD materials in some way and all but one had conducted a teacher workshop or given an awareness presentation.

As a whole, they represented a fairly diverse group. In terms of their occupation, 5 were teachers (3 middle school, 2 secondary), 5 were resource teachers/curriculum specialists, 3 worked in nonformal education (park naturalist, wildlife officer, litter program) and 1 was a college professor. While 7 of them worked only in one building, the responsibilities of others ranged farther: 1 city-wide, 2 school district-wide, 3 county-wide, and 1 in 13 counties. Half of them worked in a large metropolitan area (population approximately 1,000,000), 5 in rural towns or counties, 1 in a small city (population approximately 75,000) and one in mostly-rural 13 counties. Among the formal educators, 4 were responsible for only science, 1 science and math, 1 science/math/environmental education, 2 environmental education, 2 gifted and talented (one in science and math) and 1 all areas. This means that half of them were responsible for science and a fourth for environmental education and math. Half of them had worked for 11-15 years, 3 for 6-10 years, 1 for 16-20, 2 for 21-25 and 1 for more than 26 years--an experienced group of people. In terms of higher education, 1 had an associate's degree, 1 a bachelor's, 4 a bachelor's degree with additional hours, 4 a master's, 2 a master's with additional hours, and 2 a Ph.D.

Table 13 provides a summary of this information for each of the facilitators.

Facilitator Workshops: The Local Perspective

The next two sections draw upon interviews and some documents to examine the local (facilitator) level of implementation from the facilitators' perspective. It addresses three major areas: knowledge of the program and implementation process, leadership workshops, and teacher workshops. Under each of these three areas, a number of topics are discussed. In addition, national and state level perceptions are compared and contrasted.

A statewide survey of the use and needs of Project WILD in the research state conducted by this researcher (1986) also provides additional information. The 12-page survey was mailed to the total population of facilitators (N = 141) and a computer-generated random sample of teacher workshop participants (N = 410) from the first year of implementation. The total response rate was 78%.

Table 13

LOCAL PARTICIPANTS (FACILITATORS)

Code Name	Degree	Position	Place/Range Employment	Content/ Subject	Yrs.	Community
Wayne	BS+	Teacher	Middle Sch	Sci	12	Rural
Tony	BS+	Teacher	Middle Sch	Sci	11	Rural
Chuck	PhD	Res Teacher Gifted	Elem Sch Sch Dist	Sci/Math	26	Metro
Doris	MS	Curr Spec	County	General	15	Rural
Ray	BS+	Teacher	Sec School	Sci	25	City
Craig	MS+	Res Teacher	Sch Dist	EE	22	Metro
Eric*	BS	Educ Officer	13 Counties	Wildlife/EE	10	Counties
Keith*	MS	Teacher	Middle Sch	Sci/Math	9	Metro
Bruce*	BS+	Naturalist	County Park	Nature/EE	15	Metro
Ralph*	MS	Teacher	Sec Sch	Sci	14	Rural
Lynne	MS+	Curr Spec Gifted	County	General	9	Rural
Martha	MS	Res Teacher	Elementary	Sci/Math/EE	13	Metro
Susan	Assoc	Educ Spec	City	Litter	15	Metro
Phil*	PhD	Professor	College	EE/Nat Res	17	Metro

(* indicates that they attended the first facilitator workshop;
Res Teacher = Resource Teacher; Curr Spec = Curriculum Specialist;
EE = Environmental Education; Nat Res = Natural Resources
Metro = Metropolitan Area)

To help to identify more clearly which information comes from this study and which comes from the survey, the following abbreviations will be used: "I" = interview information and "S" = survey information.

KNOWLEDGE OF THE PROGRAM AND IMPLEMENTATION

In this section, two general topics are discussed--knowledge of the program before attending the workshop and understanding of the implementation process primarily as a result of the workshop.

Among these facilitators, 13 of them first heard about Project WILD by word-of-mouth: 4 from another teacher, 4 through the Project Learning Tree and environmental education network, two from Patty Beck, two from school district or county personnel, and 1 from an administrator. Only one person directly received a mailing. This confirmed previous discussions of people "waiting in line" and the lack of an organized, structured promotional effort for the program specifically. Among these facilitators, 8 heard about the workshop at the same time that they heard about the program. Among the rest, 2 initiated their own inquiry about workshops, 3 received a workshop announcement and 1 was notified by an administrator to attend. The survey indicated that for all facilitators, 25% heard about the workshop from an administrator, 19% from word-of-mouth, and 12% from a mailing. Also, 43% heard about the the program at the same time as the workshop (I = 57%).

Prior to the workshop, nine described themselves as knowing very little or nothing about the program and two were very knowledgeable. Half mentioned that it was based on wildlife and half that it was based on PLT. Only two of them had previously seen the materials. In the survey, 67% said they knew little on nothing (I = 64%).

When asked how their perceptions and information about the program changed following the workshop, about a third believed that there was not much of a change or that it reinforced their previous perceptions and positive expectations. About a third indicated a strong positive change as reflected in these quotes:

> Even though it was similar in ways, the activities were so much different than PLT. Like "Oh Deer!" and "How Many Bears"...The activity with trees was more investigation. These were activities involving people doing things. (Chuck)

> It is one of the few times when you go and listen to someone describing an educational activity that seems to work....It is just night and day--one day you don't know anything about it and the next you are sold on the program. (Ralph)

In what appeared to some people as a quiz, they were asked how Project WILD was first developed nationally. This question revealed some insight into their understanding of the implementation. While they were not always accurate in terms of exact names, 4 said it was developed by WREEC, 3 said by WREEC and wildlife agencies, and 4 indicated partial knowledge but said that they knew where in the book it was listed. Four people summarized the development process. In terms of funding, 6 had no idea and 5 pointed to wildlife in some way. No one mentioned the Western Association by name. In general, in the research state, everyone knew the two sponsoring agencies, although most referred to the larger organizations (i.e., DOE, NRC) instead of the specific section or agency (i.e., staff development, Wildlife Agency).

In general, they believed that the continuing role of the two agencies should be to keep doing what they were doing. Specifically for the DOE staff development, people believed that it should provide facilitator workshops (N = 4), materials (N = 3), follow-up workshops and other revitalizing activities (N = 3), promotion (N = 2), funding (N = 2), encouragement to facilitators (N = 2) and, local arrangements and promotion for teacher workshops (N = 2). For the Wildlife Agency, they believed that it should provide resource people (N = 4), supplementary materials and activity packets (N = 4), and slides (N = 4).

The above were mostly related to service ideas. Two people addressed some philosophical issues as indicated below:

> Without the DOE, this thing just becomes another 4-H project, frankly speaking. I don't believe that the NRC people show me a high quality understanding of educational process. (Lynne)
>
> I had hoped that by having the program sponsored through DOE, that might indicate the ease with which it could be infused into the whole total curriculum but I'm not sure that the DOE has done a service to Project WILD because I think they tend to relegate it under science and attach it to outdoor education kinds of things which emphasize something that is already in place. (Phil)

The first related back to the tension in the marriage between educators and resource people (i.e., people's perception that the Wildlife Agency lacks understanding of the educational process) and the second to the capability of Project WILD to improve education as a whole through its interdisciplinary, kindergarten through 12th grade approach.

The facilitators were also asked to identify conditions at the state level which they believed facilitated the implementation process. Funding and supplementary materials were mentioned by 5 people and cooperation between the two agencies, quality coordinators, inservice program, and Wildlife Agency resource people were each cited by 3 people. Funding and leadership were also mentioned by state level participants. At the local level, support from administrators and/or immediate supervisor/coordinator was identified most frequently (N = 6). This was also rated first by the state level. Teacher interest, enthusiasm and cooperation were rated second (N = 4). These were also mentioned by the national level. Two people mentioned the school site and a positive climate towards environmental education; the latter was also mentioned by the state.

The greatest hindrance at the state level, according to facilitators, were the state mandates (e.g., courses of study, minimum standards). These same mandates, however, were cited at the state level as a "help" in implementation because they required the inclusion of environmental education and science in the courses of study. Chapter VII, the educator level, provides a discussion of the role of courses of study in the implementation of Project WILD because it was there that the perceptual differences related to the value of the state mandates came fully into play. Four people believed that nothing hindered implementation and two mentioned misperceptions of the program (i.e., the controversy). At the local level, lack of administrative support and lack of any hindrances were each cited twice.

In discussing the goal of Project WILD, 13 people mentioned awareness and appreciation of wildlife and the environment; 9 mentioned knowledge and understanding of wildlife, the environment and habitat; and 5 discussed responsible human actions. Except for skills and commitment, these pretty well cover the goal as stated in the materials. Four talked about a program goal of spreading the word--providing materials. One person stated that the goal differs depending upon the individual biases of the facilitators and teachers. The facilitators believed that the workshop met this goal by providing the "know how", content awareness and knowledge, and excitement to use the materials.

In summary, facilitators mostly heard about Project WILD by word-of-mouth, often at the same time that they found out about the workshop. For the most part, they attended the workshop with little prior knowledge of the program. For some, the workshop reinforced their positive expectation while others met their expectations and experienced additional insights and understandings. The majority had at least a vague understanding of how the program was developed and funded and everyone knew who sponsored it at the state level. Everyone agreed that the program should continue, with the DOE providing leadership in implementation and educational process and the Wildlife Agency providing leadership in the development and distribution of resource materials and content information. Factors which helped implementation included funding, quality leadership, inservice education and cooperation at the state level and administrative support, teacher enthusiasm and interest in environmental education at the local level. Hindrances at the state level included state mandates and the controversy; at the local level, a lack of administrative support. The workshops helped to achieve the goals of Project WILD.

THE FACILITATOR WORKSHOP

The three general topics discussed in this section relate to the role of the facilitator, policy issues, and the nature of the workshop. Several interview questions addressed each of these.

Role of the Facilitator

Why did these individuals want to become facilitators? Eight of them saw the program, particularly the inservice element, as directly related to their job responsibilities--that is, to provide inservice education and assistance to educators. Four people wanted to attend primarily for their own use first, to help in their own program. Two people, in fact, did not even know that they were facilitators. The information on the workshop had been passed down from a supervisor, but the "facilitator" dimension of it had never been conveyed to them. They also did not seem to pick it up much from the workshop. They left with a vague feeling but mostly thought that "facilitator" was a fancy word for a teacher. Even during the interview, they did not exhibit an understanding of where they fit in the implementation process. Jim stated:

> To be perfectly honest, we like to modify everything that we do and, therefore, I can't see how we could ever do a 16-hour workshop.

Of course, that was not the expectation. Two others, while it was not part of their jobs, saw it as an opportunity to help other teachers as well as themselves.

This leads into the purpose of the facilitator workshop. Ten people stated that the purpose was to train people to train people--the multiplier effect. This was also the major purpose listed by the national and state leadership. As an integral part of that, four national people addressed improving facilitator skills, four state and local people mentioned generating enthusiasm, and two facilitators talked about building confidence. Six saw it as a means of introducing the program (e.g., materials, activities) and making people aware of what it was. Three discussed the network and support base, with each other and with the sponsoring agencies. Again, two facilitators attended the workshop without knowing the major purpose. One state leader considered the goals of learning about Project WILD and becoming a trainer as secondary. He explained:

> ...The primary things I want to accomplish may be very different from another because of my own personal philosophy of what education is all about--life-long learning skills, human relation skills, empathy, humanistic attitudes...Those are the kinds of things that I think are important...[Learning about Project WILD and how to be a good facilitator]...Oh definitely. If I was doing it, those would be secondary. (Mark)

The majority of participants at all levels agreed that the workshops met the goals successfully if well done. The two state coordinators qualified their answers:

> I don't think it is a waste for us to train 50 and have 25 go out and really be extremely active...Many people are giving inservice again and again and again...other people are saying I use that in my class room...they are telling other people about it. So I don't think there is a dead end. (Patty)

> We have succeeded remarkably well but I think we have been dealing for the most part with participants who know exactly why they are here and what we have to offer. In the future it may be that a majority of the participants aren't sure why they are there. (Roger)

The goal pointed to the facilitators' major responsibilities. Five saw conducting workshops as their major task and four saw serving as a resource person as their major task. Most other items mentioned could be grouped under organization and management of workshops (e.g., time, place, agenda, materials, staff). Within this, promotion and advertising received four votes and follow-up and evaluation received three. Other items discussed included obtaining funding for substitute teachers and persuading the administration to provide the inservice. They considered working with the people and doing the activities to be the easiest and most enjoyable part of their responsibilities. For the most part, they had a difficult time identifying the least enjoyable or hardest part. Two mentioned promotion and two the paperwork.

Policy Issues

The first policy issue pertains to the selection of facilitators. The majority of the facilitators believed that an open invitation should be used as opposed to selection based upon some kind of criteria. Seven stressed that people who are interested and motivated enough to come will in the end make the best facilitators. Only one person suggested selecting educators who are committed, concerned, professional and of high quality to yield an elite pool of facilitators--a crack team that does all the workshops. State leaders also agreed on an open invitation to attract the most interested. If too many applied, then geographic representation would be considered. One person suggested a "self evaluation form" that would help people decide if this was something they really would be interested in doing. Half of the national leadership preferred some degree of selection in order to maintain quality control (e.g., a limited mailing asking selected people if they want to volunteer to become a facilitator). Others preferred an open invitation but with clear expectations. In the following, one leader described a dilemma while another addressed the issue of opportunity:

> ...double-edged swords. You don't want to create an elitist group but you want to maintain quality control. My intuition is always to create some really strong standards and leave the system open for people to join in and help resist the temptation to become an elitist group. (N-3)
>
> If you want to have a program get out to a number of people in the state, you need to have somebody or a set of somebodies who have it within their job description to do that. Somebody who is going to volunteer can only do one or two workshops a year. I've always argued, however, that we not give up on having classroom teachers as facilitators. First, because I think that their experience is so fundamental, rich, honest, legitimate, credible--all of those things--and, secondly, I don't want to miss the opportunity to help develop teachers. (N-9)

Do facilitators agree with the policy to provide Project WILD materials only through a workshop? Absolutely! Only one person disagreed. Two people expressed opposing views on the idea of prior knowledge and experience:

> No, anyone who has had experience in doing workshops, anyone who knows national programs can pick up Project WILD and do a superb job with it...The materials need to be disseminated as much as possible and probably what happens is that more people get information by Xeroxing...than will ever be reached by doing facilitator or teacher workshops. (Phil)
>
> Yes, I do, very strongly...I figured I would know a lot of the material...I went with an open mind saying I want to learn what this is all about...I think I could do something but I'm afraid I would blow what they are trying to do in the way of a state-national program. (Chuck)

A few people thought that a rare exception to this policy could be considered. The state and national level both supported the workshop. People at different levels mentioned the value of networking that resulted from the workshops. For the teacher workshop, four facilitators did not support the policy and one state leader was uncertain. Almost anyone was willing to make an exception to the policy for a teacher who expressed a real interest and commitment.

Nature of the Facilitator Workshop

Finally the interviews addressed the nature of the facilitator workshop. The local participants were asked to think back on the facilitator workshop they attended and to identify what they considered the most helpful part of the workshop. Seven thought that actually doing the activities and discussing them afterwards was the most helpful, seven discussed the quality of the workshop (e.g., well-organized, good model, pacing, enthusiasm, variety in activities and format, well-designed, facilities), six mentioned the peer teaching session, and five focused on the people aspect (e.g., neat people, sharing, networking, interacting). When asked about the least helpful aspect, there was no consensus--except five people who said that there was no "unhelpful" part. Most of the comments reflected a personal preference or individual situation (e.g., wanted snack recipes, learning style session was done poorly, arrived late and felt lost).

In a similar question, national and state leaders were asked about the strengths and weaknesses of the facilitator workshops. National participants thought the greatest strength was the people and the greatest weakness was not having the right people there (i.e., in terms of who would make a good facilitator). The state had two people who thought the team approach represented the strength and no agreement existed on weaknesses. Roger, in referring to the leadership team of five indians commented, "Too many chiefs spoiling the broth to some degree...I think there has been a lack of a chief of the chiefs."

In looking at the overall format of the workshop, facilitators were asked to indicate if they thought there should have been more attention to or emphasis on six components of the workshop. First, in terms of wildlife content information, one workshop had about an hour in addition to what was discussed during the debriefing of activities and the other had only the debriefing. Four thought that what was done was appropriate, three thought people could find what they need from other sources, two wanted more, and two did not want any. At the state level, four wanted more and three suggested telling people how to locate more information on their own. At the national level, seven considered content a minor part of the workshop and believed the best way to present information was through the debriefing of the activities. Some suggested a formal session on state wildlife issues.

Actually doing activities (including peer teaching) comprised the major part of the workshops (approximately six hours). Three people wanted more, one less and everyone else thought it was just the right amount. The state agreed. National used words such as "major," "significant amount," "great deal of time," and "critical." One facilitator expressed the following:

> They say a picture is worth a thousand words but when you get out there and act it out, it is worth 3,000 words. (Ray)

The conceptual framework received about 45 minutes in one workshop and a quick review in the other. Charts on the wall were also used to show the relationship between the activities and the framework and to show the theme of "awareness to action." Nine facilitators thought that the way it was done was fine, two wanted more, one less and two did not even remember it. Three specifically referred to the charts as an effective method. State leaders saw only a need for an awareness approach. The national level, however, was split. Half agreed that awareness is adequate. The other half considered the framework important as reflected by their words: "substantial," "imperative--spend time on it," "important, maybe one hour," and "rate high." Some of their perspectives on its importance include:

> It helps lead them to a unit--awareness to action...Also I have found that the conceptual framework itself is a very useful information tool for teachers...I have found them saying that they read it for their own information. They don't read it as a curriculum tool...as a planning tool... (N-9)

> I tell people that this whole guide is to do with as you like. You can teach an activity. You can turn it upside down, paint it purple, punch holes in it, whatever you want to do. The only thing that we say is engraved in granite is that conceptual framework. That is a very powerful piece of material...it could make a book--an ecological book...do not change anything in the conceptual framework. (N-4)

> One of my wildlife managers said that he went eight years to school to learn what is in 8 pages of Project WILD. (N-7)

Perhaps this sense of importance came from their intense involvement in the development of the framework and their in-depth understanding of the role it played in the overall development of the materials.

Approximately a half hour was spent on how to incorporate Project WILD into the existing curriculum during the two workshops. Five people believed it was fine or needed the same amount of time but a more effective approach. Five believed that more time was needed. Some people clarified their answer--teachers needed more or others needed more ("not me personally") or nonformal needed less. At the state level, the educators basically wanted more (relate to courses of study, text, planning, concept teaching) and the resource people wanted the same. The national level considered it very important, with eight wanting "quite a lot on it" and three wanting more and better. One person explained the importance:

> I think that is a real critical element. To me that is part of bridging. It is a very essential, key technique for creating bridges between the workshops you are going to be doing and the WILD guides and the classroom....Doing activities and bridging kind of things are two of the most important ingredients. (N-2)

In terms of educational process (e.g., learning styles, questioning strategies, management, inquiry approach), five said it was adequate, two wanted more, two wanted none at all and another said it was important but needed a separate workshop. At the state level, two educators wanted the same, one educator wanted more for resource people, and the two resource people questioned its value (i.e., not going to make a difference; not sure it needs to be at the first level facilitator workshop). At the national level, a few thought it was important to spend separate time on it and a few thought it should be modeled and integrated throughout.

Finally, participants were asked about the amount of emphasis on how to conduct a workshop. Seven facilitators believed it was enough time and three wanted more. Three specifically mentioned the value of the Workshop Handbook. The state leaders differed with three wanting more, one wanting less ("they're not ready yet") and one wanting less for experienced facilitators (i.e., facilitators of PLT) and more for inexperienced. The national level, again, thought it was important but emphasized two aspects. The logistics (e.g., ordering books, promotion, local arrangements) varied in recommended time from 15 minutes to 1-2 hours. The other part, how to conduct an effective workshop, was considered very important and included facilitator skills, agenda planning, management and questioning strategies. This could take up to a quarter of the workshop. In the research state, only the first facilitator workshop addressed this aspect specifically.

SUMMARY

In summary, participants became facilitators primarily to help meet their job responsibilities and to provide a service. The purpose of the workshop they attended was to help them develop the skills, motivation and confidence to organize, manage and conduct teacher workshops. Participants believed that facilitators should not be "selected" but extended an open invitation which clearly communicated high expectations and quality standards. Participants strongly supported the policy of only providing books through workshops; however, exceptions were considered appropriate at the teacher level but rarely at the facilitator level. The best features of a facilitator workshop included the activities, the overall quality, peer teaching, the people and a team approach. In general, the format of the workshop met with approval, with the activities considered the most important component. Many participants also believed that a section on how to incorporate Project WILD into the curriculum was important. Some wanted "more and better" time spent on it. For the most part, the national level placed more emphasis on intergration, the conceptual framework and techniques for conducting an effective workshop than the other levels.

Teacher Workshop

The purpose of the facilitator workshop, as stated above, was to train people to train people--to leave the workshop and go back home and conduct one or more workshops for local educators. This section examines the teacher workshop--the purpose, how well it succeeded, the facilitators' activities, the nature of the workshop, and the non-active facilitator.

First, what did the facilitators consider the purpose of the teacher workshop? Half of the participants saw the workshop as a way to provide materials to teachers for use with students. Three talked about helping teachers feel comfortable, confident and competent in using the materials and three mention making people more aware of Project WILD so they could use it. Everything pointed to teachers using the materials with students. State leaders also agreed that it was to teach them to use the materials and also to excite and motivate them to want to use them. The national leaders saw use as the primary objective. Learning about wildlife and the environment was also important.

Most agreed that the workshops succeed. Two local facilitators agreed but with clarification--if the workshop is well done and if the participants are interested. Two thought the workshops were too long. State leaders thought the greatest strength of the teacher workshops were the facilitators and receiving free material. National leaders mentioned the educator/resource team, goal achievement, and the fact that it is a positive, enjoyable experience. State leaders cited follow-up as a weakness; national leaders cited time and making connections to the curriculum.

In the statewide survey, respondents were asked to indicate to what extent they agreed or disagreed with certain statements about the workshop they attended. For all items except one, the scores fell between "strongly agree" and "agree," indicating overall positive reactions to the workshops. The highest score (1.67, where "strongly agrees" equals 1 and "agrees" equals 2) was given to "helpful in implementing WILD activities" and "resource materials were useful." The lowest score of all (2.84--between "agree and "unsure") indicated that the weakest part was follow-up after the workshop.

Immediately after the workshop, six local facilitators intended to use the materials with students and six planned to conduct teacher workshops. Others planned to assist with a workshop or share the materials (e.g., other teachers, introduce in a college course).

FACILITATOR ACTIVITIES

The following discussion of facilitator activities and the nature of the teacher workshops conducted by these facilitators is based upon their recollections, documentation and some field observations; however, it should be noted that this represents incomplete data. They did not always recall everything, fill out reporting forms completely, or submit forms.

To begin, how many of these 15 interviewed facilitators actually conducted a teacher workshop? For 6-hour teacher workshops, 79% or 11 people provided one or more workshops. That percentage increases to 93% or 13 people for those who conducted workshops and/or gave an awareness presentation. Only one person had not followed through at all in the facilitator role. This figure may be higher than for all facilitators. For example, in the statewide survey, only 63% of the facilitators had done a workshop or presentation. The difference between these two figures may have resulted from when people attended the leadership workshop. Approximately one third of the people surveyed attended the third workshop and would have had only five months in which to do a workshop before receiving the survey. Four months after the first workshop, for example, only 30% of the facilitators had been active. This percentage increased over time. The people from the third workshop were also not the people "waiting in line" so, perhaps, they were less motivated to follow through on their responsibility.

The facilitators reported conducting a total of 35 workshops. This gave an average of 2 1/2 workshops per person for the whole group or 3 workshops per person for active facilitators. This ranged from 1 to 9 workshops.

When asked what contributed the most to the success of the workshop, five said good planning, five commented on the value of a team approach to facilitating, and four mentioned quality facilitators. The last two responses represent 9 different references to "leadership." The next factor was people. One person commented:

> I think the type of people that Project WILD leans to have a common interest--wildlife and the out-of-doors. They are a unique group of people. There is a comraderie that you don't find in the general public. I think that is what makes the program click. (Ray)

Only two facilitators mentioned the activities; yet, at their facilitator workshop, they considered doing the activities the most "helpful" part.

When asked what they would change about their workshop, there was little consensus except for a general category related to time--more time or more time spent on some aspect. In general, they believed that their workshops were successful. How successful was difficult to determine. At the workshop, participants provided feedback by circling "excellent," "good," "okay," or "not particularly good" on the workshop evaluation form, letting facilitators know how participants felt about the workshop and the materials. Throughout the state, 99% of workshop participants circled "excellent" or "good." Five facilitators commented on the positive responses at the workshop. After the workshop, six facilitators said that they knew that some teachers were using the materials. Five indicated that they had had little or no contact with participants afterwards. This lack of consistent and on-going follow-up was cited previously as a weakness of the workshops. Little was known about what happened after the workshop.

NATURE OF THE WORKSHOP

In looking at the nature of the workshops, 18 completed agendas from 8 different people were analyzed to determine which "components" of a workshop occurred most frequently. Table 14 lists topics specifically identified on the agendas. Facilitators may have covered topics not listed as an additional agenda item or in an integrated way (e.g., ideas on how to incorporate into the curriculum are done as part of the debriefing of activities). The numbers represent the number of agendas containing the topic.

This table indicates that the only topics covered by everyone were the overview and doing activities. Approximately three-quarters of the workshops also included an overview of the contents of the guide, peer teaching and evaluation. In examining at the agendas from all over the state, this pattern was consistent.

Table 14

ANALYSIS OF TEACHER WORKSHOP AGENDAS

Components of Workshops	Number of Agendas
Introduction/Overview of program	18
Activities	18
A walk through the guide	13 (8 orally, 5 worksheet)
Closing and evaluation	12
Peer teaching	11
Resource materials	7
Animal preference sheet	4
Learning styles	4 (all same facilitator)
Controversy	4
Peer presentations	3
Conceptual framework	3
WILD snacks	3
Wildlife Agency resource person	2
Objectives for the day	2
Explain project for college credit	2

In terms of the activities, facilitators averaged 6 1/2 activities for a one-day workshop (range = 3 to 11). These workshops averaged 5 1/2 hours in length (range = 4 to 7 1/2). The two-day workshops averaged 11 1/2 activities and lasted an average of 14 hours. The facilitators reported using 38 different activities. Table 15 lists the titles of these activities and the number of times they were used by one or more facilitators. The first column provides the titles by decreasing number of occurrences. The second column describes at which facilitator workshop the activity was used with "F" indicating that this activity was used at the leadership workshop held in the fall (November, 1984) and "S" at the spring workshop (March, 1985). The last column indicates how many times an activity was used a) in total, b) by people attending the fall workshop, and c) by people attending the spring workshop. For example, "Oh Deer!" was used at both the fall and spring facilitator workshops. It was used by fall attendees 5 times and by spring attendees 16 times for a total of 21 times. "How Many Bears..." was only used at the spring workshop. Spring attendees used it 9 times. One fall attendee used it at a teacher workshop although it was not used at the fall facilitator workshop. This table indicates that facilitators tended to select activities to use in the teacher workshop which they experienced at their leadership workshop. In looking again at the individual agendas and the individual leaders, 76% of the activities conducted in the teacher workshops were also conducted at the leadership workshop. This has implications for activity selection at the state leadership level. Does it matter what activities are used? If so, how should they be selected?

How did the local facilitators select their activities? Three responses were each mentioned by five people: based upon the expected audience, what worked well at the facilitator workshop, and covering the range of concepts in the conceptual framework. Four people selected activities that would work well at the facility or would complement the facility. A major, overriding theme among the answers was variety--active/quiet, indoor/outdoor, interdisciplinary, all

Table 15

ACTIVITIES USED BY FACILITATORS AT TEACHER WORKSHOPS

Activity	Facilitator Workshop Used	Total	Times Used: By Fall	By Spring
Oh Deer!	F,S	21	5	16
Habitat Lapsit	F,S	15	3	12
Owl Pellets	S	11	3	8
How Many Bears Can Live in this Forest?	S	11	1	10
Quick Frozen Critters	S	9	0	9
Ethi-Reasoning	F,S	8	2	6
Animal Charades	F,S	8	3	5
Thicket Game	F,S	6	2	4
Dean's Task Cards	S	5	0	5
Deadly Links	S	4	1	3
Muskox Maneuvers	F,S	4	2	2
What Did Your Lunch Cost Wildlife?	S	3	1	2
Litter We Know	--	3	0	3
Wild Words	F	3	0	3
Does Wildlife Sell Cigarettes	F	2	2	0
Animal Poetry	F,S	2	0	2
Bearly Born	--	2	0	2
Interview a Spider	F	2	1	1
Urban Nature Search	F	2	0	2
Stormy Weather	F	2	0	2
Learning to Look, Looking to See	F,S	1	0	1
Adaptation Artistry	F,S	1	0	1
Classroom Carrying Capacity	--	1	0	1
What's Wild?	--	1	0	1
To Zone or Not to Zone	F	1	1	0
Seed Need	--	1	1	0
No Water Off a Duck's Back	--	1	0	1
Bird Song Survey	S	1	0	1
Habitrekking	F	1	0	1
Lobster in Your Lunch Box	--	1	0	1
Pond Succession	--	1	0	1
Ants on a Twig	--	1	0	1
The Hunter	--	1	0	1
Too Close for Comfort	F,S	1	0	1
Playing Lightly on the Earth	S	1	0	1
Beautiful Basics	--	1	0	1
Wildlife is Everywhere	--	1	0	1
Forest in a Jar	--	1	0	1

concepts, elementary/secondary, large group/small group. Three facilitators selected ones that were fun and ones that were their favorites.

How did the state leaders select activities? For the first workshop, Patty gave us an activity list, which was organized by concepts. Everyone was to select one activity from each concept based upon personal criteria. In this way, she also drew upon her leadership workshop experience and was looking for a range of concepts. For the second workshop we debated and debated and planned and planned. Based upon the transcriptions of the planning sessions, the following summarizes the major criteria used to select activities.

Since the audience would be a diversified group that would work with a variety of groups, we planned for variety. In fact, as with the local facilitators, variety was a major theme--learning styles and strategies, active/quiet, indoors/outdoors/, grade level, subject areas, appropriate for a variety of settings. Some criteria related to management issues--get acquainted, warm-up, break into groups, pull group back together, pick them up after lunch. Some activities were selected on a personal basis--feel comfortable doing it, has been successful in the past, a favorite, think it's fun, have done before and liked it, it's appealing on a personal level, want to try something new. Planning and preparation concerns included already having the materials, not taking long to plan or to prepare the materials, fitting the necessary time constraints. Appropriate content was also mentioned. All these factors were almost considered as givens--things you needed, things you respected. As a leadership team, complete agreement on how important it was to cover all the concepts in the framework was never reached.

Some facilitators offered college credit for the workshop. The majority of people, at all levels, supported the idea of offering optional college credit--as a carrot to attract people, help meet recertification standards, salary increases, get credit for what they were going to do anyway. Some concern was expressed about people coming "just for the credit" and also the administrative hassle for the facilitator. In general, people did not feel that taking the workshop for college credit would influence how much or the way in which it was used. Some felt it might have influenced who attended. Some felt that an appropriate assignment related to receiving the credit might influence someone to use it or use it sooner but not how they would use it. In reference to a one-week lesson plan, one national leader stated:

> It does push them a little bit further into making that transition between what went on in the workshop and what they can actually do in their classroom. (N6)

NON-ACTIVE FACILITATORS

The last topic in this section deals with the non-active facilitator--one who has not conducted a workshop nor given an awareness presentation. Only one person in this study fit this category. This person used Project WILD in his classroom and, as chair of his high school science department, shared the materials with the other science teachers. He loaned his books to elementary teachers who had visited the school land lab and to other elementary teachers in the district (through his wife). He was supportive of conducting a workshop but felt that he had not been able to receive administrative support or to convince the district professional organization (i.e., the union) to offer one. He explained:

> The administrative and professional organization are so intertwined as far as what is allowed, when, professional days...so in one and a half years I have not been able to get an official workshop going...I do not belong to the organization. I'm not in the planning meetings...A lot of teachers I have talked to would like to do it. But the information so far hasn't gotten communicated to the right people...the curriculum coordinator thought it was a good idea...[I've been told that the elementary principals] like to have some say as to what their teachers are doing as far as professional development. Project WILD doesn't fit into their scheme of things. (Ralph)

In the statewide survey, lack of administrative support (20%) was second only to lack of time (28%) as a reason given for why a person had not served as a facilitator. Some people had not done a workshop yet but planned to do one in the future (18%). Other items, each marked by a few people, included feeling uncomfortable in the role of a facilitator, change in job responsibilities, difficulty coordinating effort with other facilitators, and philosophical differences with the program (i.e., the controversy).

As explained in Chapter III, an attempt was made to find other non-active facilitators within the research area to gain more insight into why people did or did not conduct workshops. One person was found but refused to be interviewed because he said he would not be helpful. Three people for whom there was no record of activity had either assisted with a workshop or had given an awareness presentation. One teacher who had done an awareness presentation, had had the workshop information passed down to her. She, like Wayne and Jim, did not know in advance the expectations of the workshop. All three commented about feeling uncomfortable as a facilitator. A wildlife education officer, the person who refused to be interviewed, felt personally uncomfortable with the materials himself, although he thought they were terrific for his agency and for others to use. One person who worked for a government agency chose Project WILD out of desperation to appease people requesting educational assistance with litter programs when she had nothing to provide--it was the right thing at the right time. She did awareness sessions then but not after she hired staff to meet the requests. An outdoor education director, who had helped with one workshop, cited two limitations on her use of the program--school district teachers' lack of confidence for teaching in the out-of-doors and her own feelings of being locked into her existing camping program. These comments by slightly active and non-active facilitators may point to some of the factors which influenced how much facilitators participated in the program.

In summary, teacher workshops provided educators with materials and helped them to develop the confidence, skills, enthusiasm and motivation to use the materials with students. In general, the workshops were regarded as a success with the only major weakness the lack of feedback and follow-up. Positive dimensions included the facilitators, free materials, a team approach, the "enjoyment" aspect, and resource materials. The workshops were considered helpful in implementing Project WILD.

All of the local participants but one fulfilled their responsibilities as a facilitator by conducting a workshop or providing an awareness presentation. In spite of the lack of feedback and follow-up, they believed that good planning and quality leadership resulted in a successful workshop. An average workshop given by these facilitators lasted approximately six hours, presented an introduction to the program, used 6-7 activities, provided an overview of the materials, included peer teaching, used a variety of teaching approaches and provided for evaluation. These workshops met every aspect of the national guidelines. Facilitators tended to select activities for teacher workshops which they experienced at their leadership workshop. In addition, they considered their audience, the conceptual framework and variety of strategies. Reasons for lack of participation by facilitators included lack of administrative support, lack of time, feeling uncomfortable in the role, and planning one in the future.

Summary and Conclusion

As with the other data analysis chapters, it is difficult to isolate, categorize and organize all the different elements involved in this process. In both Chapters IV and V, inservice education was identified as one of the key factors related to implementation. When placing inservice education into a broad context, many of the discussion topics parallel those discussed as factors influencing implementation. In the literature review, many of these were discussed under "components" of inservice education and "characteristics" of effective inservice education. These two areas provide part of the foundation for this section along with the developing implementation model.

As presented in Chapter II, several writers identify components of inservice (Joyce et al, 1976; Sparks, 1983). Griffin (1983a), however, provides a scheme which seems most applicable to this study. He discusses four important aspects: context, assessment, content and process. The first two overlap the first three phases of the development model--determinants of implementation, initiation and adoption, and implementation. The last two focus more specifically on inservice as a key factor under implementation. The following discusses these four aspects and relates them to factors in the model (see Figures 8 and 10) which influenced implementation. Some of the discussion reinforces ideas previously discussed; some addresses new concepts.

Context, for inservice education, involves the interrelated and complex characteristics of the setting (e.g., organizational properties, history of prior change, perceptions of school missions, funding capabilities). For example, at the local level, agency support again emerged as a key element. Funding became an issue in determining the length of the workshops and in choices about facilities where workshops were held. Quality leadership and resource materials were both cited as "helpful" for implementation. Facilitators knew the agencies provided this support and felt it should be continued. Active facilitators mentioned administrative support as helping implementation and non-active facilitators saw a lack of support as an impediment. Educator support was also listed as a important condition--interest, enthusiasm, and cooperation. The value of inservice education was again confirmed. The use of national facilitators at the first two workshops reinforced the worth of the national *program support*. Under *external factors*, in addition to the controversy, two new ideas emerged--state mandates and a positive climate at the local level towards environmental education. The former was viewed both positively and negatively. The joining of staff, resources, funding and expertise through the *partnership* of the two agencies achieved excellence perhaps beyond the reach of a single agency, but not without minor tensions resulting from philosophical and personal differences. The participants' perceived *goals of the program and the workshops* matched the actual goals as established by national and state leadership, increasing the probability of the success of the program. *Fate and the human element* entered, this time related to the "personality" of the workshop, dynamics between the leaders, and some tensions.

Four new contextual factors appeared from the local level analysis. The first, *adoption influences*, parallels the developmental influences listed under determinants of implementation. In this case, plans for implementation began during the adoption process and were influenced by it--decisions about who would lead the first workshop, partnership, and nature of the adopting agency. *Promotion* of the program was raised as an issue in terms of methods (e.g., word-of-mouth, via administrators) and extent of knowledge of the program's existence or characteristics (i.e., most had little or no knowledge). Prior to the third workshop, a need for promotion was not felt. *Time* became a factor in planning for workshops and in the level of participation by local facilitators. Finally, *change and evolution* reflects the dynamics of the process of implementation. The program evolved over time in efforts to improve, to meet changing needs, and to strive for longevity. These factors, which Griffin would call "context," influenced the first three phases of the implementation model, particularly the implementation phase.

The second component of staff development, **assessment**, involves a careful examination of needs and a determination of whether a need should become the focus of staff development. As described in previous chapters, a perceived need existed from the national perspective for quality, generic wildlife education materials. At the state level, each group perceived Project WILD as meeting its needs while these needs varied depending upon the group's interests and mission. In this way, Project WILD was seen as capable of meeting the need for programs, materials and inservice in three areas--science education, environmental education and wildlife education. In this chapter, facilitators sought the program in an effort to meet their job responsibilities as well as individually felt needs. Since the targeted audience for Project WILD was K-12 teachers, it was designed specifically to meet individually perceived needs. In essence, Project WILD functioned as an open system. Once a state adopted the program, anyone could enter. Yet, the ideal to which the program strived was to meet the needs of groups and organization--"WILD" schools and "WILD" districts--in what the national director described as "piecemeal to pervasive." In this way, individuals with a felt need for Project WILD, whatever that might be, could seek out an isolated teacher inservice workshop and provide random workshops in an area or systematically introduce the program to whole schools and districts.

As an open system, Project WILD had the capability to meet a variety of needs through inservice education on a variety of levels.

Content, the third staff development factor, relates directly to the nature of the inservice program and, consequently, relates directly to the "implementation" phase of the emerging model. It includes the knowledge, skills, and/or attitudes which may be introduced, on a large or small scale, to an educational setting. Project WILD addressed all three areas--knowledge and understanding about wildlife and the environment; skills in teaching about wildlife and the environment; and attitudes which foster the integration of wildlife education within the existing curriculum as a means of improving education as well as the environment.

The last component, the **process** of inservice education, complements content under the implementation phase. Drawing upon the reviews of literature and characteristics of inservice education summarized in Chapter II, a number of factors which contribute to the success of inservice education can be identified within Project WILD. Other factors not strongly supported by the research but believed to be significant by the participants in this study are also indicated. In examining the literature, it is important to remember that some of it addresses school and district staff development programs. Project WILD, while it had the capability of meeting those needs, was aimed more towards individual development through the open system approach. Interpretations from the chapter reflect this factor. The following discusses characteristics of effective inservice education exemplified in Project WILD.

Local and school-based inservice received much support in the literature. This relates to accessibility (i.e., at the school site), to teacher involvement, increased probability of changing attitudes, desirability of local planning and implementation, and job specific orientation. Wade's study (1984-5) concluded that government sponsored and funded programs were more effective. Project WILD represented the best of both worlds--sponsored and funded by two state agencies but implemented primarily by local facilitators.

The literature recognizes the workshop as the most commonly used form of inservice; however, it receives mixed reviews with most studies showing that it is only moderately effective. One review (Staff, 1983) indicates that when the goal is to increase awareness or introduce ways to present materials, the one-day workshop can be successful. If the goal is to integrate learning into the curriculum, then a long-term effort is needed. To the extent that one of the goals of the Project WILD workshops was to introduce the program and motivate people to use it (as facilitators and teachers), the short-term workshop so strongly supported by the program seemed appropriate. Considering the concerns expressed about building bridges between the workshop and the classroom, there appeared to be a recognition that this was not easily accomplished in one day. That idea was reinforced by the concern for appropriate and adequate follow-up.

Inservice programs that use key training components--presentation, modeling, practice and feedback--prove to be effective. Many Project WILD workshops followed this strategy by presenting the overview of the program, modeling the activities, practicing through peer teaching and receiving feedback during the debriefing. The concept of split workshops debated at the reunion workshop would reinforce this approach. Along with this is the emphasis on variety of strategies. Participants should be involved and active. The lecture approach should not be used extensively. The analysis of workshop agendas indicated that much attention was given to providing variety within the workshop. Participants also supported the use of a variety of leaders. Effective workshops also provide practical ideas, skills, and materials which have immediate application in the classroom. Project WILD materials were cited over and over as one of the strengths of the program. An effort in the workshops was made to show the practical application through the debriefing and through the "how to incorporate this in your curriculum" sessions. Some support exists for providing college credit for workshops and for offering workshops during non-work hours.

Teacher involvement in all phases of inservice comes through as an important factor--planning, decision making, implementation and participation. As an open system, Project WILD allowed the teacher to enter essentially at any point--attend a workshop for own self improvement, attend a facilitator workshop with the intent of bringing it back to the district and providing inservice to interested teachers, or serve on a district-wide staff development program that decides to bring Project WILD into the district as a foundation for the new science program. The inservice program should also meet the needs of the participants which, as already explained, Project WILD did.

The participants supported the literature in their belief that successful inservice has the support of the organization and administration including the principal. This may not be as important a factor for individual teachers as for the more pervasive inservice efforts.

The nature of the change receives much attention. Small change, or "fine tuning" existing approaches, is easier than extensively altering practice. Project WILD for the most part did not involve major changes in teacher behavior. This idea is discussed more thoroughly in Chapter VII. Changes in concepts and knowledge are easier to achieve than changes in teacher behavior which are easier to achieve than changes in attitude. However, programs are more likely to succeed when they focus on changes in teachers rather than changes in student behavior. This has implications for previous discussions of the outcomes of implementation--is the end goal changes in teachers or students.

Providing a climate that encourages collegiality and mutual support is important. Participants often referred to support bases, networking, pair bonding, and "neat" people. "People" were cited as one the strengths of the program. These aspects were encouraged at workshops. Project WILD was based upon respect for teachers.

Successful inservice involves systematic and comprehensive planning--a lesson learned the hard way by state leaders. Participants strongly supported the need for quality planning. Comprehensive implies follow-up which the literature supports. The lack of follow-up remains one of the greatest criticisms of the one-shot workshop and was also a recognized weakness in Project WILD implementation. Two aspects related to planning not specifically addressed in the literature but of concern to facilitators were promotion and attention to the personal comforts of workshop participants.

On-going continuous evaluation was considered important. Workshop evaluation forms and a survey of the use of Project WILD in schools and other settings were employed to try to evaluate the progress and effectiveness of the program.

Project WILD participants differed with the literature on two accounts. Lawrence (1980) concluded that one of the factors that did not account for differences in outcomes was whether or not teachers were required to attend. Facilitators did not like the idea of conducting required inservice. They believed that it was less effective. Wade concluded that combined elementary and secondary workshops are more successful. Facilitators believed that the secondary teacher posed unique challenges and perhaps responded better to separate workshops. This is discussed more thoroughly in Chapter VII.

Participants considered quality leadership a key element in the workshops and supported it much more strongly than the literature reviewed in Chapter II. The use of the multiplier effect was also strongly supported in the study and not mentioned as an inservice strategy in the literature; yet, it represents a model which has been used for many years. Flexibility was important also at the facilitator level. The leadership workshops provided a model for teacher workshops but with the idea that facilitators would adapt that model to the needs and circumstances of their local areas. The only characteristics supported in the literature that were not also supported in Project WILD were: participants choose their own goals, linkages with a university, and individualized and independent study.

In summary, components of inservice education relate directly to the factors affecting implementation discussed in previous chapters as well as "inservice education" as a key element under the "implementation phase." Some of the issues reinforced findings from the other chapters and some presented new insights. Very few of the characteristics of effective inservice education were not exemplified in Project WILD. Figure 11 summarizes these points.

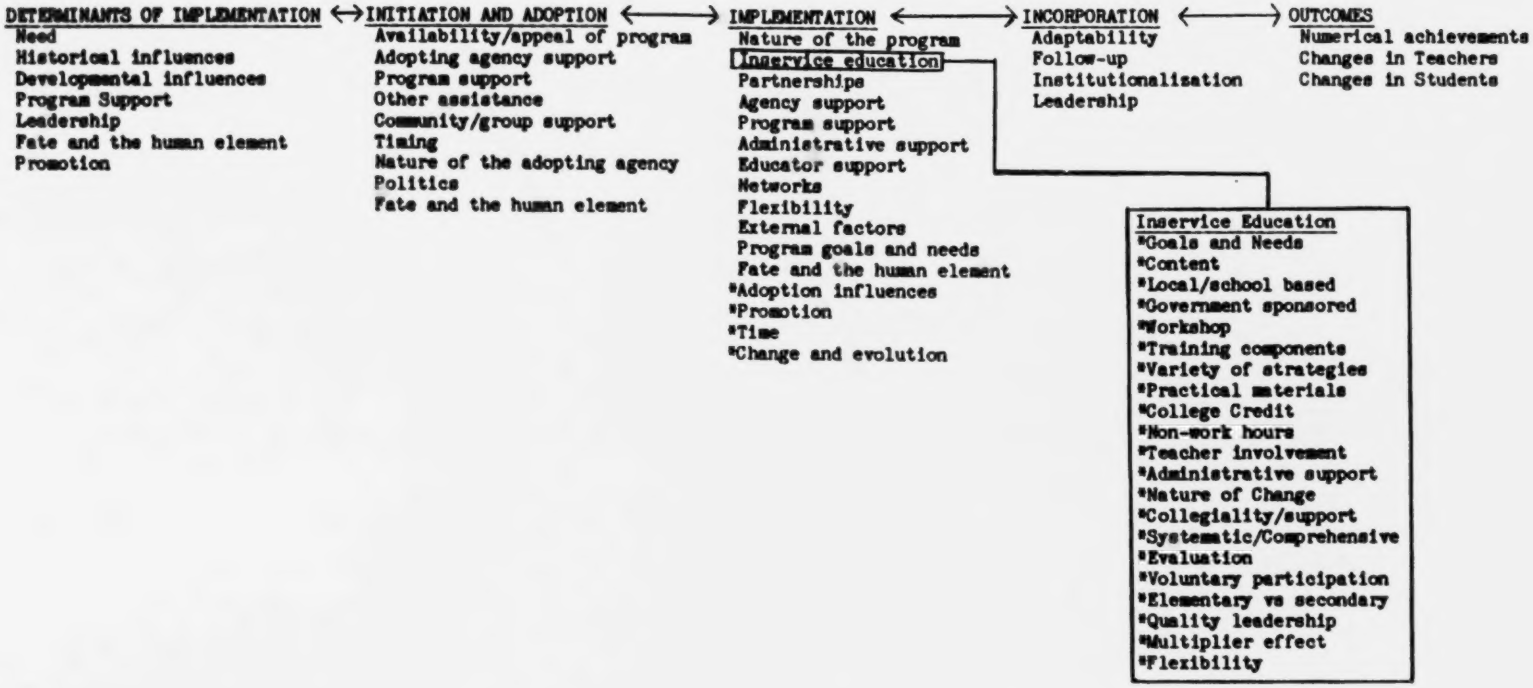

DETERMINANTS OF IMPLEMENTATION
Need
Historical influences
Developmental influences
Program Support
Leadership
Fate and the human element
Promotion
INITIATION AND ADOPTION
Availability/appeal of program
Adopting agency support
Program support
Other assistance
Community/group support
Timing
Nature of the adopting agency
Politics
Fate and the human element
IMPLEMENTATION
Nature of the program
Inservice education
Partnerships
Agency support
Program support
Administrative support
Educator support
Networks
Flexibility
External factors
Program goals and needs
Fate and the human element
*Adoption influences
*Promotion
*Time
*Change and evolution
INCORPORATION
Adaptability
Follow-up
Institutionalization
Leadership
OUTCOMES
Numerical achievements
Changes in Teachers
Changes in Students
Inservice Education
*Goals and Needs
*Content
*Local/school based
*Government sponsored
*Workshop
*Training components
*Variety of strategies
*Practical materials
*College Credit
*Non-work hours
*Teacher involvement
*Administrative support
*Nature of Change
*Collegiality/support
*Systematic/Comprehensive
*Evaluation
*Voluntary participation
*Elementary vs secondary
*Quality leadership
*Multiplier effect
*Flexibility

Figure 11

IMPLEMENTATION OF PROJECT WILD:
PHASES AND FACTORS AT THE LOCAL LEVEL

CHAPTER VII

EDUCATOR LEVEL: TEACHER WORKSHOPS AND CLASSROOM USE

The final chapter of data analysis focuses on the educator level as the culmination of the implementation of Project WILD. While the four analysis chapters present the process in a linear fashion, as previously indicated, this is an interactive process, more cyclic in nature. The overall sequence of events, however, shows the educator workshop flowing out of the facilitator workshops. This chapter summarizes the 3 teacher workshops observed as part of this study, presents an overview of the 15 teachers who participated, describes the use of Project WILD materials in the classroom, discusses factors which influenced this use, and presents the findings.

Teacher Workshops

All three facilitators who participated in this phase of the study attended the March, 1985 leadership workshop. As discussed in Chapter VI, the intent of this workshop was to prepare facilitators to conduct teacher workshops. These workshops provided a model for a teacher workshop--a skeleton to be fleshed-out by individual circumstances. In the following three workshops, the skeleton remained discernable but the body of each workshop was uniquely shaped by many factors including the facilitators, people, places, times, season, facilities, moods and local circumstances.

CALDWELL HEIGHTS ELEMENTARY WORKSHOP

Caldwell Heights Elementary School, located in a large metropolitan school district (population 600,000), served kindergarten through fifth grade students (approximately 50% Black) from all over the district. It represented one of several magnet or special focus schools for the district; therefore, in addition to the regular curriculum, the school provided an emphasis on environmental education, science and math.

Initially, the workshop held at this school was intended for the whole school staff (14 teachers plus the principal). The staff from Tower Park, a school for emotionally disturbed children, was later invited to join the workshop because their principal was interested in having his teachers incorporate environmental education into their school's program. The workshop occurred on two successive Monday afternoons in April from 3:30 to 6:30. The first session was held at the school and the second at Willow Springs, the district's nature center. The Tower Park group was supposed to attend the first session but the staff had exhibited little interest. The principal said that he would pay them to go if necessary. About half of them showed up for the second session. A week later the facilitators conducted the first part of the workshop for them at their school. The Caldwell Heights teachers brought snacks to share. All but one of their staff members attended. In addition, one of their former teachers returned for the workshop. Martha, the resource teacher for Caldwell, and Cindy, an assistant museum director and the former resource teacher, conducted the workshop.

The first session began with everyone in the resource room eating snacks and watching the introductory slide show. After a brief review of the information, Martha took them outside for a "wake up" activity--"Oh Deer!". Afterwards, adaptations and discussion flowed quickly and easily. They tried one of the suggested adaptations. Back inside, Cindy wrote the activity under Concept IV on one of the posters listing the seven principles from the conceptual framework. Then the teachers paired off to do the "task card" activity developed by Dean, the national level facilitator from the spring leadership workshop. Martha and Cindy modified the sheet to have a variety of indoor and outdoor activities and expanded it from 11 to 16 items. After debriefing each one, the partners suggested which concept the activity taught. Before a 10 minute break, they dissected owl pellets and afterwards did "Habitat Lapsit" in the gym. Back in the room, Cindy talked about the different features in the guides. She emphasized the objectives and how they fit into their courses of study. Then the teachers filled out the "safari" worksheet which was used at the facilitator workshop. The workshop ended with "Quick Frozen Critters," which they played twice because the first time no one froze.

The second week everyone met at the nature center. Martha provided some introduction to Willow Springs and Project WILD for the benefit of the Tower Park staff. The people introduced each other. A parent volunteer conducted a stream study as an adaptation of "Pond Succession." While still by the stream, Martha led them in the

"Thicket Game." Immediately afterwards, they divided into five groups for peer teaching which concluded the workshop.

The workshop definitely reflected the model of the facilitator workshop, using handouts (safari, task cards), ideas (concept posters, peer teaching), materials (slide show, owl pellets), and activities (6 out of the 7 were done at the facilitator workshop). But they also made modifications to suit their purposes. During both sessions, the teachers seemed involved and interested and had a good time. The Tower Park staff intermixed and participated equally with the Caldwell Heights teachers. On the evaluation forms from Caldwell, 94% of the teachers (15 out of 16) circled that the workshop was "Excellent, one of the best I have ever attended." A third grade teacher wrote, "The ideas in Project WILD are wonderful. I just wish I had time to use all of them." A second grade teacher said, "Very enjoyable experience--I plan on using this with my children." Martha recalled the fourth grade teachers talking about planning for their camping trip. Before the workshop, they were having a hard time deciding what to do because they had "done everything." After the workshop, they were having problems deciding what do to because they had too many ideas with Project WILD.

CLEAR LAKE STATE PARK WORKSHOP

Lynne, a county coordinator for a gifted and talented program, and Karen, an education major at a state college, conducted a two-day summer workshop at a state park interpretive center. Graduate credit was available from a private college. The college advertised the workshop through its regular promotional materials. In addition, Lynne and Karen told people about the workshop. Several teachers who had attended one of their six-hour workshops also attended this one in order to receive credit. For this reason, they did not attend every session. Of the 21 participants, 80% were elementary teachers, evenly split between primary (K-3) and intermediate (4-6). One person taught high school (physical education) and the rest taught middle school. The majority taught in rural communities.

When the people arrived, they saw cartoons about wildlife posted by the entrances and exits; small posters of the concepts from the framework; resource materials displayed up front; and coffee, ice tea and water on the porch. After registering, they added their "WILD" snacks to the table outside. Following a brief introduction, Lynne gave the participants copies of the animal preference sheet to complete as a mixer activity. Afterwards, Karen introduced the components of habitat and took them outside to do "Habitat Lapsit." Inside again, Karen showed the introductory slide show and summarized and expanded the information presented in it. Lynne followed with a 20 minute presentation on learning styles. After the break, everyone went to a wooded area to play "Thicket Game." Based upon the debriefing and concerns about not having an appropriate area at a school to do this activity, they played it again in the area by the building and parking lot for a comparison. Roger Hirsh and Eric Stapp from the Wildlife Agency arrived and talked about the value of Project WILD, discussed the controversy surrounding the program, and provided some information about wildlife in the state. After lunch, Roger divided the participants into four groups and gave them each an "Ethi-Reasoning" dilemma card to discuss. Following the debriefing by both Roger and

Eric, Roger again divided the teachers into groups to dissect owl pellets. Karen introduced them to the activity books with an oral walk through the guide. Lynne explained the requirement for college credit, which was to develop a unit plan to use in their own classroom. The day ended with everyone outside playing "Muskox Maneuvers."

On the second day, both the facilitators and participants brought more resources to share. One teacher commented on the unique variety, which included books, recipes, coloring books and cross-stitch patterns. As a mixer, the teachers participated in "Animal Charades," role playing white-tailed deer, leopard frogs and red-tailed hawks. After spreading poker chips on the ground, Karen led them in "Quick Frozen Critters." The debriefing was followed by "Oh Deer!" and "WILD" snacks. An American toad hopping across the field interrupted the playing of "How Many Bears Can Live in the Forest?". Before lunch, the teachers worked in pairs to complete the "task cards" and then returned inside for an introduction to the park by a naturalist. After lunch, Lynne played a guided imagery tape of "Stormy Weather." The last activity that the facilitators led was "Deadly Links." The day ended with five groups peer teaching and then evaluation.

The workshop skeleton from the facilitator workshop also supported the body of this workshop. Some features of the workshop paralleled the leadership workshop: the handouts (animal preference, task cards, learning styles), ideas (peer teaching, learning styles, posters, snack), materials (resource materials, owl pellets, slide show), and activities (11 out of 12 were done at the facilitator workshop). Some features were completely new: "Stormy Weather" tape recently available from the Wildlife Agency, cartoons, and the emphasis throughout the workshop on learning styles and teaching to the left-brained child. Of the three workshops, this was the only one that included a Wildlife Agency representative. Offering college credit influenced the length which in turn provided additional opportunity: more activities, a less rushed feeling, the talk by the park naturalist and the teaching unit. The workshop appeared to be a positive experience for the participants. The teachers actively participated, contributed to the debriefing, shared ideas, laughed, and had fun. On the evaluation forms, 13 (65%) circled "excellent" and 7 (35%) circled "good." Many comments appeared on the evaluation forms--suggestions of things to add to meet personal interests, alternative suggestions for the unit plan, and praise for the facilitators. An elementary teacher wrote, "A very practical workshop. Something I needed a boost in." Another said, "Project WILD appears to be a very well written activity book. I'm looking forward to using it with my students."

BROWNVILLE SCHOOL DISTRICT WORKSHOP

The Brownville School District serves a city of about 75,000 people. This workshop involved four required inservice education sessions spread throughout the year (October, December, February and April). Each session met for two hours after school (half hour early release time). Project WILD was listed on the program for secondary science teachers. Some participants thought they were required to go to Project WILD because it was the only session specifically offered for secondary science teachers. Some thought the inservice was required but, as a science teacher, they could still attend something else. Some thought only three of the four were required by contract. These perceptions affected the workshop. In general, about 14 people attended each session but with slight variations (several new people, several who did not return). The tone of the workshop was also different, perhaps because of the "required" dimension, perhaps because of the secondary science audience. The workshop was led by Ray, a biology teacher, and Debra, an environmental education resource person for the school district. Since these facilitators did not perceive Project WILD as meeting the needs of all the science teachers (e.g., chemistry, physics, earth science), they suggested during the first meeting that the third session could be reserved for sharing a favorite laboratory demonstration. This suggestion met with everyone's approval.

The October session began the moment people entered the room. Debra gave them the "Animal Preference" sheet as a get acquainted and mixer activity. In addition, she gave them name tags. Ray placed some resource materials on a lab table. The district provided cookies. In the overview of the program, Ray mentioned that little existed in the guides for the higher level sciences, but that, in general, a teacher could go as far with Project WILD as desired; the program could be adapted easily. Inside they counted off by fours and then went outside to participate in "Habitat Lapsit". They used the name of the animal on the back of their name tag to play "Animal Charades" followed by "Oh Deer!" and "How Many Bears Can Live in the Forest?". The first two activities had very little debriefing. The second two had more, mostly concentrating on the content aspect of the lesson. Debra then guided the participants down the nature trail for an "Animal Poetry" experience. Afterwards they seemed reticent to share their writings. Two teachers did so privately while walking back to the building. Another commented, "I feel like I'm in 4-H camp again." The session closed with Ray explaining that this session was an attempt to get their feet wet and show them how easy it was to do Project WILD.

When the teachers arrived for the second session, they signed the inservice attendance form and began immediately to complete the "safari" guide worksheet while working in pairs. During the introductory comments, Cindy explained that one of the values of Project WILD was that it not only worked for college bound science students but also for others since it deals effectively with science in society issues. Doing "Owl Pellets" came next on the agenda. In addition to the "safari," Ray also pointed out features of the activity guides and spent time discussing each of the seven concepts in the conceptual framework. Ray referred several times to the fact that he could not locate concept posters that he and three other facilitators had printed up for another workshop. Following a break with cookies provided again by the district, Cindy divided the teachers into three groups for peer presentation--choose an activity and explain or show in four minutes how they would do it with a class. They then finalized plans for demonstrating a favorite experiment at the next meeting. Ray concluded the session by encouraging the teachers not to leave the guides on their shelves because "kids eat it up." He explained that when he started with "Habitat Lapsit," the students were skeptical at first. Because of their interest and how well the activities worked, he ended up using "just about every ecology related activity in the book."

The third part of the Project WILD workshop (their fourth inservice) was designed to take advantage of the springtime weather and season. The activities, which were conducted outside, included "Habitrekking," "Edible Plants," and "Urban Nature Search."

Again, the workshop exhibited the skeletal pattern and reflected ideas from the facilitator workshop: the animal preference and safari handouts, a modification of peer teaching, reference to the posters, resource materials, owl pellets, and activities (6 out of 9 were done at the facilitator workshop). Since Ray had done so many of the activities with high school students, he was able to relate the materials to the teachers' curriculum, talk about specific extensions and adaptations, and show them ways that the activities worked with this age group. The teachers participated in all the activities, appeared involved, and contributed to the debriefing; however, as a group, they seemed less enthused than the other workshop participants. Perhaps this was because of the "required" dimension of the workshop. Perhaps this was because of a perceived lack of relevance to their teaching. Three people from this workshop were interviewed for this study. All three indicated that, although they personally enjoyed the workshop, they would not have attended if it had been optional, if a session more closely related to their subject area (i.e., chemistry) had been offered, or if something related to an area of weakness (i.e., physics) had been provided. Evaluation forms for this workshop were not available. No evidence existed to indicate that this workshop would not have been rated "excellent" and "good". Two of the interviewed teachers commented:

> We were kind of in a mood to be done to...None of us really wanted to be there. It is after school and we are tired and we have got better things to do. It just got us involved immediately...By the end, we were all having fun and we all got to the point where we could really use this. (Jan)

> I feel positive about it. Coming into any workshop situation after school, feeling negative. It's just the idea of having to be there. I think I have found, all workshops considered, that it has been one of the better ones. (Barb)

SUMMARY

If one of the major purposes of the leadership workshops was to provide a role model of a workshop to guide the facilitators in conducting their own workshops, then they succeeded. Not only did each of these workshops meet the minimum guidelines established by the national steering committee, as discussed in Chapter IV, but they also reflected specific features of the leadership workshop that the facilitators attended--handouts, ideas, materials, and activities. Some materials in the facilitator workshop folders were not used at the facilitator workshop but were only provided as a reference or an option. Few of these appeared at the teacher workshops. Of the ones used during the facilitator workshop, essentially all of them were used at the teacher workshop. In this way, demonstration and/or practice seems important if the materials and ideas are to be used. In addition to meeting the criteria and employing the same strategies, the teacher workshops appeared to meet high levels of quality. Yet, each workshop was uniquely different, confirming the value of flexibility in meeting local needs, interests, and circumstances. Teachers left these workshops ready, willing and able to go back to their classrooms and implement Project WILD. Or were they?

Overview of Teacher Participants

Fifteen teachers from these workshops were interviewed to represent the classroom level perspective. At the time of the interview, 11 worked in an elementary school, 1 in a middle school, and 3 in a high school representing a total of 7 different schools. Among the teachers, 8 taught in schools which served a rural community, 4 in a large metropolitan area, and 3 in a city. In terms of educational background, 7 had a bachelor's degree, 3 had a bachelor's plus additional hours, and 5 had a master's. Years of teaching experience ranged from 1-1/2 years to 31 years with an average of 11 years. Two-thirds of the participants taught in a self-contained classroom and one-third taught science. Table 16 summarizes this information.

Teachers' Perspectives on the Workshops

This section draws upon interviews (I) and the statewide survey of use (S) presented in Chapter VI to discuss two major topics: the teachers' knowledge of the program and its implementation and their perceptions of the workshop they attended.

KNOWLEDGE OF PROGRAM AND IMPLEMENTATION

One-third of these 15 teachers first heard about Project WILD from a facilitator before the workshop (Lynne and Martha) and one-third from a facilitator at the workshop (Martha and Ray). Lynne described herself as a "salesman" because she promoted the program in her

Table 16

OVERVIEW OF TEACHER PARTICIPANTS

Workshop	Name	Grade	Community	Years	School
Caldwell Heights	Amy	1	Metro	31	Caldwell Heights Elementary
	Marsha	5	Metro	4	
	Denise	4	Metro	13	
	Mary	4	Metro	3-1/2	
Clear Lake	Norm	6	Rural	13	Euclid Middle
	Tammy	3	Rural	5	Cherry Hill Elementary
	Emily	3	Rural	7	
	Ben	7-Sci	Rural	10	
	Ruth	6	Rural	20	First Street Elementary
	Sandy	6	Rural	13	
	Lisa	6	Rural	14	
	Marty	2	Rural	7	Oak Elementary
Brownville	Tom	HS-Sci	City	20	East High School
	Barb	HS-Sci	City	5	
	Jan	HS-Sci	City	1-1/2	West High School

(HS = High School)

district through awareness presentations, one-on-one contact, and literature left in mailboxes. People from her county mentioned hearing about it through all three of these methods. Other people from her workshop heard through the college brochure, a newsletter, or another person. Most of the participants (60%) found out about the workshop at the same time that they heard about Project WILD (S = 75%).

In two of these workshops, the facilitator's job responsibilities created the opportunity to promote the program on a personal basis (Lynne and Martha). The most frequent reasons given for why the teachers wanted to attend included: something (new) could use in classroom (N = 5); interested in wildlife (N = 4); and it was required (N = 3).

Three-quarters (73%) of the teachers described themselves as knowing little or nothing about Project WILD before the workshop (S = 84%). About two-thirds of the people thought their perception of the program changed because of the workshop. One person said:

> We loved it! We thought it was going to be a little bit different. We were surprised at the amount of time spent outside...[We expected] more of a lecture format and more information. And we were surprised at the books--that there were very concrete activities in it! (Marty)

As a whole, the teachers did not remember who developed or funded the program on the national level. In this study, the further removed from the national level, the less the participants knew about the history and development of Project WILD. This is probably understandable and probably not a problem. At the state level, nine people knew, guessed, or used a generic term for the Wildlife Agency as the sponsor. Only one teacher knew that the DOE sponsored it. This lack of knowledge has some implications for implementation and longevity. It perhaps confirms the lack of follow-up after workshops (at least by the state), decreases the chance that teachers will request supplementary materials or assistance, and decreases the probability that they can promote the program in their areas (i.e., request further inservice), particularly if their local facilitator becomes unavailable.

These teachers described the goal of Project WILD as developing an awareness and appreciation for wildlife and the environment (N = 11). Seven people addressed responsible decision-making and human action and four mentioned knowledge about wildlife and the environment. They believed the workshops successfully accomplished these goals through the participation in the activities. They described the major purposes of the teacher workshop as helping teachers to learn how to use the book/materials/activities and as encouraging them to use it and to spread the word (N = 12). They also said that the goal was to make teachers aware of Project WILD (N = 8). All the teachers agreed that the workshops succeeded in meeting these goals. This means that at all four levels of implementation, the participants in this study considered _use_ the primary purpose of the workshop and believed that the workshops succeeded in this goal.

TEACHER WORKSHOP PERCEPTIONS

The participants were asked to talk about the workshop that they attended. Nine teachers believed that the most helpful part of the workshop was doing the activities. Two people each mentioned the peer teaching and the activity guides as most helpful. Other than five people saying that "nothing" was unhelpful, there was little consensus on weaknesses in the workshops. Two teachers said that they did not find the naturalist's slide show helpful and two did not like the "WILD safari". The teachers were asked to indicate whether they would have liked more, less or the same amount of emphasis on different parts of the workshop. Generally speaking, they liked the workshop the way it was. About half the people wanted more emphasis on wildlife content information and half thought it was fine. No one wanted less. All the secondary teachers wanted more. It is interesting to note that the workshop that used the most activities (Clear Lake = 12 activities) was the only workshop where people wanted more activities--because they were fun, helpful, and enjoyable. One person wanted more physically oriented activities. Everyone thought the treatment of the conceptual framework was fine. There was little interest in educational process; 5 out of 8 teachers who attended the workshop that addressed learning styles indicated that they would have wanted less emphasis on educational process. The session on how to integrate the materials into the curriculum received a variety of responses. No one wanted less emphasis. One wanted more. The three secondary teachers all said that they would like to have a session on integration at their last meeting. Some others commented:

> The integration isn't difficult. It is just finding the time to do it. (Ruth)
>
> The most helpful thing with that was the unit...That made you take a good look at your science book. (Marty)
>
> Not for me because I have my own ideas on how to do it. (Tammy)

> Not only do I have to think about how I can do those activities with my students but I have to think how I can justify those activities to my assistant principal. (Tom)

These perceptions pretty well matched those of the other levels--participation in the activities was the most important feature of a workshop. The teachers wanted wildlife content next. Some people found a session on integration helpful and everyone found the quick review of the conceptual framework appropriate or adequate. Very few supported a session on educational process. Twelve teachers agreed with the policy of only providing books through the workshops, two were unsure and one disagreed. While most readily admitted that they could have done activities without the workshop, they thought that the workshop increased the probability that the materials would be used (not waste money, not go on a shelf). In addition, the workshop was described as providing more than just the book, giving the opportunity to see the activities in action and being helpful. Some comments included:

> I felt I got a lot out of seeing these things in action...I don't think that you should just walk in some store and pick up this book and be expected to know all that it offers. (Lisa)

> Because, if I were handed the book, I would look at it and say, "Oh, this looks good!"...but I don't know that I would ever find a place for it in the curriculum...I think participating in the activities and seeing them is that extra boost. (Mary)

> I think the workshop is important in seeing how the activities can be implemented and possibly in exchanging ideas with other teachers who tried them...to get modifications and so forth. I don't think it is absolutely essential. (Ruth)

> I think I would disagree. Six hours in anybody's time is very precious.

Only half were willing to make an exception to the policy, less than at the other levels. On the statewide survey, the three most helpful features of the workshop for teachers were the resource materials, the content, and the strategies. The respondents indicated that they had not received useful information and help as a follow-up to the workshop.

Finally, seven teachers received college credit for the workshop but only two went primarily for the credit. In fact, they had previously attended a six-hour workshop. They both believed that attending it for a second time increased their use because the project forced them to become more familiar with the book. All seven believed that the project was worthwhile because it was something they could use, it was a resource they could draw upon, and it helped to fill in holes in the book. Two teachers from the same school selected different topics for their units so that they could exchange them later, resulting in two new units for each of them. Three people felt that doing the required project for college credit increased their use of the materials.

After the workshop, everyone intended to use the materials. Six had no specific ideas in mind and nine identified specific ways they would use it--unit, integrate with science text, specific activities.Eight anticipated a successful experience and four were skeptical but willing to try.

SUMMARY

In summary, teachers mostly heard about the workshop at the same time that they heard about the program. One-on-one contact with people through the facilitators seemed to work well as a means of informing people about the workshops and program. Most people were not knowledgeable about the program before the workshop; for those with preconceived ideas, the workshop reinforced and positively changed their perceptions. Teachers mostly attended the workshop to learn new ideas and to learn more about wildlife and the environment. They believed that the workshop succeeded at its goal of promoting use of the materials. The teachers agreed with participants from the other levels that participation in the activities was the most important part of the workshop and that teachers should be required to attend in order to receive the books.

Classroom Use of the Materials

This section presents an overview of the intended use of Project WILD and people's perceptions of the ideal use as a framework for understanding use. It examines the actual use of the materials in the classroom, describes a range of patterns of use related to how teachers integrated materials into the classroom, and discusses factors which influenced use.

THE DEVELOPER'S INTENT AND THE IMPLEMENTER'S IDEAL

In order to understand better how the Project WILD materials were actually used by these teachers, it is helpful to first understand the original intent of the developers of the materials and to compare that with the "ideal" use as envisioned by leaders responsible for implementation. The introductory pages of the elementary activity guide explained the **intent** of the program as follows:

> Instructional activities within the Project WILD materials are designed for easy integration into school subject and skill areas...so that classroom teachers may use the materials as a means by which to teach required concepts and skills...

> Instructors may use one or many Project WILD activities. The activities may be integrated into existing courses of study, or the entire set of activities may serve quite effectively as the basis for a course of study.
>
> Because these materials are supplementary--designed for integration into existing courses of study--instructors may pick and choose from the activities. Each activity is designed to stand alone....There is no need to do the activities in order, nor to do all activities, even for a given grade level. However, the activities have been placed in a thematic and developmental order...from awareness and appreciation...to responsible human actions.
>
> ...In every case, an instructor is encouraged to adapt activities for different ages, subjects, skills, group sizes, etc.... (p. x-xi)

In this way, the program supported the existing curriculum but in a manner flexible enough to meet the instructional needs of individual educators. It suggested a range of possible uses which were equally acceptable.

During the interviews, participants at the national, state, and facilitator levels were asked what they believed was the ideal way for Project WILD to be used in the schools. At the national level, 70% said that it should be an integral part of the existing curriculum. One person said, "...the way designed--as a supplement to the existing curriculum...." Another stated, "...as a supplement but as an integral part of the organized curriculum. In other words, it really isn't supplementary." This raises an issue of semantics. According to Webster's Dictionary, supplement means "something that completes or makes an addition." Integrate means to "form into a whole; unite." Integral means "essential to completeness." At times people seemed to use these words interchangeably and at times as a progression.

From the developers' perspective, supplementary meant that the materials were not part of a teacher's required curriculum. Instead they represented instructional materials which fell within the discretionary arena of the individual teacher. As optional materials, the individual teacher would then decide how best to incorporate the activities into the existing curriculum--as something "added on" to the curriculum or as an "integral" part of the curriculum. While the intent, as described in the introduction to the guide, suggested a range of possibilities, the "ideal" as described by the national leaders pointed towards integration. Integration, however, could pose some challenges as indicated by these national leaders:

> It is ideally integrated in with whatever normal things are being taught in science and social studies or even language arts so it becomes an integral part of those disciplines...WILD is a great substitute for something else in social studies or science or even language arts and, if they are familiar enough with the program, they can integrate it there and they don't have to teach WILD too....The teachers have to be pretty competent in knowing what they are already teaching and what WILD is teaching so they know when that is a clean substitute rather than an addition to. (N-3)

> [The ideal way is] to help teach one of the skills or concepts that they have a responsibility to teach....My sense is that the underlying goal for the program is to teach about habitat but I, as a teacher, can ignore that. I have other goals....Meanwhile, you can accomplish your Project WILD goals while I accomplish mine but only by attaching your goals to my goals. My goals take precedent in every case. As the classroom teacher, I am the ultimate arbiter of what is taught in my classroom and how it is used. If you don't do that you are a prostitute. (N-5)

While some state leaders saw the ideal as an addition, most wanted to see Project WILD integrated into the curriculum. A state Department of Education representative stated:

> The only way that it can be used is if it helps to accomplish the subject matter objectives that are stated in the courses of study....If the Project WILD activities that are done by learners

> are not contributing to reaching the subject objectives, you have no justification for doing this as far as I can see. (Mark)

In terms of the "ideal" way to use Project WILD, the facilitators provided a wide range of approaches with the major emphasis by five of them on "interdisciplinary"--not just science, team up with another teacher. Three mentioned supplementary. Other suggestions included: as part of a unit, a nine week course, part of resident outdoor education, as a full textbook, any way that makes a positive change in a teacher, and every teacher in every subject. Most of these infer an educationally meaningful use but not necessarily comprehensive integration. In this way, perception of the ideal use became progressively less oriented towards total integration as it moved from the national level to the facilitator level.

This presentation of the intended use and the ideal use provides a framework for examining the actual use of the Project WILD materials in the classroom. The following section analyzes the specifics of this use. Did the teachers who attended the workshops use Project WILD? Which activities? To what extent? How often? How? Where? When? Why? These represent some of the most frequently asked questions about this implementation process; yet, they are frequently the most unanswered.

CLASSROOM USE

Of the 15 teachers participating in this study, 13 used one or more activities (87%; S = 82%). Two teachers (13%) were non-users. Throughout the following discussions of use and nonuse of the program, the time frame for the research should be kept in mind. The first facilitator workshop occurred in November, 1984, and data collection ended in December, 1985. The Caldwell Heights teachers had the most opportunity to use the activities (from mid-April to June and from September to December). The Clear Lake State Park group had from September to December. The Brownville teachers received their guides in October at the first of a three part inservice with the second part occurring in December.

Nonusers of Project WILD

Both of the nonusers were high school teachers who attended the Brownville workshop. At the time of the interview, Barb believed that she would use the materials during the spring when she would teach the biology part of her general science course. She described the text as ecologically oriented and suggested that it emphasized the environment too much. She had no specific activities in mind and could not identify any from the workshop that she might use. She described her approach to planning for that year:

> This is just the second year for this science book and so I just go one day at a time. I will look into it before we get there but I'm not doing it now.

She thought she might use Project WILD about once a week with most of her classes and she believed that they would enjoy the activities; however, she also expressed some concerns about the nature of two classes in which she would probably choose not to include Project WILD activities.

Tom, a chemistry and physics teacher, had hoped that he could find some activities to use. He enjoyed the workshop and found the content interesting but admitted that he had not taken the time to find anything that might work with chemistry. There was nothing immediately evident to motivate him to pursue looking for different activities. He explained:

> If you could go through and say, "You could do this one and this one" then I would say, "Yeah, I could use that one." But just going through and looking at it--it is one of the things I keep telling myself that I'll do when I get a couple of hours and then I have got something else to do.

The two major factors affecting use for these teachers were timing (planned to use it in the spring) and lack of fit with the curriculum (few Project WILD activities adequately addressed chemistry and physics). Several other concerns related to their willingness to use the program (i.e., nature of students, difference between elementary and secondary level) and are discussed in a later section on general factors affecting use. Among the nonusers in the statewide survey, the major reasons for not using the materials included: not enough time to plan how and when to use it (26%), plan to use it in the future (21%), not enough room in the curriculum (12%), inappropriate for subject area and/or students (9%), and current job does not provide opportunity to use (9%).

Activity Use and Frequency of Use

Thirteen teachers used Project WILD activities. As a group, these teachers used 38 different activities, 19 of which had been presented at one or more workshops either in a facilitator led activity, during peer teaching, or as one of the task cards. The number of different activities taught by any one teacher ranged from 2 to 11 with an average of 6 activities per teacher. The median was 5 activities and the mode was 4 activities. For comparison, in the statewide survey, 60% of the teachers used 1-6 activities (I = 62%) and 39% used 7 or more (I = 38%). Findings from the national field testing (Fleming, 1983) indicated that significant cognitive gain occurred with the use of 7 or more activities. The national director mentioned this figure at different times as a possible target goal to keep in mind. She does not perceive it, however, as a definitive goal, believing that much educational significance is still evident even in the use of fewer numbers of activities.

Since some teachers used the same activity with more than one class, it is possible to also look at number of activity occurrences or how many times a teacher used a specific activity. For example, Norm used "Oh Deer!" with four different classes resulting in four activity occurrences. The number of activity occurrences for the group of teachers ranged from 4 to 18 with an average of 8 occurrences per teacher. For instance, Norm used 7 different activities for a total of 18 occurrences.

The greatest use occurred at the intermediate level (grades 4-6). These teachers (46% of the group) accounted for 56% of the number of activities used by the group and 49% of the number of activity occurrences. The primary teachers (K-3) represented 31% of the teachers and accounted for 28% of the activities and 21% of the occurrences. Fifteen percent (15%) of the teachers were middle school and accounted for 15% of the activities and 22% of the occurrences. A similar pattern of usage was found with the survey: 41% of the teachers used Project WILD with intermediate students, 32% with primary, 15% with middle school, and 10% with high school. While the primary grade teachers (K-3) used more activities than the middle school teachers, their number of occurrences were about equal. Table 17 summarizes this information.

This group of teachers used many activities which were not part of their teacher workshop (40% were not done at the workshop); however, the activities they used the most tended to have been conducted at one or more workshops (67% done at one or more workshops). The two activities used by the most teachers for the most times were both done at all three workshops--"Oh Deer!" and "Habitat Lapsit." Others done at all three teacher workshops included "Owl Pellets" and "How Many Bears Can Live in this Forest?". These four activities were the only ones that were done at each of the three teacher workshops and they were all ranked among the most frequently used activities by these 13 teachers. Six out of the seven activities done at two workshops were also among the most frequently used: "Deadly Links," "What's for Dinner?", "Animal Charades," "Stormy Weather," "Quick Frozen Critters," and "Grasshopper Gravity." "Thicket Game," which ideally required a wooded area, was only used once. This information is summarized in Table 18.

Table 17

TEACHER USE OF PROJECT WILD ACTIVITIES

Grade	Number Teachers	Percent Teachers	Percent Activities	Percent Occurrences
K-3	4	31%	28%	21%
4-6	6	46%	56%	49%
6-8	2	15%	15%	22%
9-12	1	8%	3%	4%

In addition, the activities most frequently done first were "Habitat Lapsit" (N = 4), "Animal Charades" (N = 2), and "What's Wild?" (N = 2). Out of the eight activities done first, only two were not done at the teacher workshop. The activities used by the widest grade level span included "Habitat Lapsit" (primary through high school), "Animal Charades" (primary and high school), and "Oh Deer!" and "Stormy Weather" (primary through middle).

As with facilitators, teachers tended to use activities that were done in their workshop; however, unlike facilitators, they tended to use more beyond the workshop activities. Among the interview

Table 18

MOST FREQUENTLY USED ACTIVITIES BY TEACHERS

Number Teachers Used Activity		Number of Occurrences	
6	*Habitat Lapsit	12	*Oh Deer!
6	*Oh Deer!	10	*Habitat Lapsit
4	*Animal Charades	6	*How Many Bears...
4	*Deadly Links	6	*Deadly Links
3	Beautiful Basics	5	*What's for Dinner
3	*Owl Pellets	5	*Animal Charades
3	*Quick Frozen Critters	4	*Stormy Weather
3	*Stormy Weather	4	Here Today, Gone Tomorrow
3	*What's for Dinner	3	Beautiful Basics
3	What's Wild?	3	*Muskox Maneuvers
2	Everybody Needs a Home	3	*Owl Pellets
2	*Grasshopper Gravity	3	*Quick Frozen Critters
2	*How Many Bears...	3	Seed Need
2	*Muskox Maneuvers	3	What's Wild?
2	My Kingdom for a Shelter	2	Everybody Needs a Home
2	*Pond Succession	2	*Grasshopper Gravity
2	Seed Need	2	Migration Barriers
2	*Too Close for Comfort	2	My Kingdom for a Shelter
2	*What Did Your Lunch Cost...?	2	*Pond Succession
		2	*Too Close for Comfort
		2	*What Did Your Lunch Cost?

(* = Occurred at one or more teacher workshops by facilitator, in peer teaching, or on task card) participants, 60% of the teachers' activities were done at their teacher workshop; 76% of the facilitators' activities were done at their leadership workshop. For individual teachers, the percent of activities used by them which were also done at their teacher workshop ranged from 40% to 100%. For the three facilitators of these teacher workshops, the percent ranged from 67% to 92% of their activities having also been done at their leadership workshop.

In summary, during the period of this study, teachers used an average of six different Project WILD activities for an average of eight activity occurrences per teacher. Intermediate and then primary teachers tended to use the materials the most. The most frequently selected and most frequently used activities reflected those conducted during the teacher workshops.

Activity Selection

Yet, when teachers were asked why they chose to do a particular activity, only one person said that it was because it was done at the workshop. The majority of the responses pertained to how the activity fit into the curriculum--introduced a concept, fit with a chapter in the text, part of a unit. When asked what criteria they used to decide if an activity was a "good" one to do, the most frequent response (N = 6) related to complexity--easy to use, not complex, not complicated directions. Three features were mentioned by five teachers: correlates with the curriculum, personal appeal ("would I like it") and time (to prepare and/or conduct). The next criteria, mentioned by four people, involved ready availability of the necessary information and materials to conduct activities. Three teachers looked for activities which taught concepts in an understandable way.

How Activities Were Used

Once teachers selected activities, how were they used? Two aspects stand out the most. First, all 13 teachers used the activities predominantly for science with 77% of the activity occurrences represented by this one subject area. The next highest usage involved math (10%) and then other (8% = art, health, physical education), language arts (5%) and social studies (2%). The state survey showed a similar pattern except that math and language arts were reversed in order in the sequence. Math perhaps appears more frequently in this study than in the survey because Caldwell Heights Elementary School emphasized math, science and environmental education. Five teachers used it exclusively for science. Five teachers used the activities in one other subject area (separate from science and/or with science). Marsha, Lisa and Mary each used it in three to five different subjects. However, only Marsha and Mary, both teachers from Caldwell Heights, could be characterized as using Project WILD consistently as an interdisciplinary program--using it over half the time to teach concepts and/or skills by drawing upon two or more subject areas.

The second major aspect describes how the activities fit into the curriculum. Based upon a check list on the "Activity Record Form", teachers indicated that 61% of the activity occurrences involved the teaching of a unit. Other ways included: supplement to the text (18%), other (13%--field trip, by substitute teacher), part of the course of study requirements (8%), and just for fun (4%). Among the 10 teachers who indicated that the unit served as their most frequent way of fitting Project WILD into the curriculum, only 4 of them had used their college credit project at that point in time. The other three planned to use theirs in the spring. With rare exception, the textbook provided the impetus for the unit. In some cases, a chapter or two served as a stimulus for a topic for a much broader unit. In some cases, a chapter or two appeared as swiss cheese with its holes filled in by Project WILD activities and other supplementary materials. In some cases, a chapter or two had an activity or two affixed.

In addition to these two major characteristics of use, several other generalities emerged. Approximately three-quarters of the teachers indicated that they adapted more than half the activities that they had used. Fifty-four percent (54%) of the activity occurrences involved some form of adaptation, but the extent of the adaptation varied. Most simply represented a change in materials or procedures--changed the amount of food available for "How Many Bears Can Live in This Forest?"; developed a permanent, laminated chart for graphing "Oh Deer!"; made one combined collage of wild and domestic animals instead of two separate for "What's Wild?"; used biodegradable white popcorn and cheese popcorn for "Deadly Links;" gave more specific and concrete directions for "Habitat Lapsit;" and used a film strip to show pond succession. Sometimes only pieces of an activity were used--only procedures one to three of "Seed Need," only the library research part of "My Kingdom for a Shelter," and only first extension for "What's for Dinner?". Some adaptations modified, enhanced or extended the activity--having a guest speaker and doing research reports on endangered species for "Here Today, Gone Tomorrow;" forming a food pyramid on the steps after playing "Deadly Links;" examining global wildlife issues by showing on a world map the locations of the countries of origin of the food discussed in "What Did Your Lunch Cost Wildlife?"; applying the concepts learned in "Oh Deer!" to a different species by playing "Oh Roach!". Only one situation involved teaching a totally new concept using a strategy from one of the activities. Jan taught her biology students the different life functions of a cell by having them represent respiration, reproduction, excretion, and secretion in stead of the four components of habitat in a version of "Habitat Lapsit." Several teachers mentioned that the more they did the activities, the more comfortable they felt about adapting them. They might do an activity as written the first time and then decide if and how to adapt it for later uses.

Some other patterns characterized the overall use of the materials. In terms of activity occurrences, the materials were used more often outside (55% of the active occurrences), during the afternoon (56%), and for 20-30 minute blocks of time (62%). In terms of individual teachers, six tended to use the activities mostly inside, five mostly outside, and two equally inside and outside. Three Caldwell Heights teachers used it mostly outside and one equally inside and outside. In many cases the use occurred at Willow Springs, the nature center. They were the only teachers who indicated that they were "encouraged" to take students outside. All other teachers said that they were "allowed" to go outside. Ben, from Cherry Hill Elementary, clarified by saying that he could go out, but only if the activity looked controlled and educational in the eyes of the principal. Three of the four primary teachers used the activities mostly inside as did all the teachers from First Street Elementary School. Two teachers gave reasons for why they did the activities in the afternoon: reading occurred in the morning and Project WILD did not fit well with reading, the students' feet would become wet from the morning dew. While activity length varied from 15-60 minutes, over half the teachers tended to conduct the activities during 20-30 minute blocks of time. The length of time was influenced by the age of the students, perceptions of how much time the teacher could afford to give an activity, and school schedules.

Finally, in terms of the conceptual framework, activities selected by this group of teachers spanned the whole range of concepts with the greatest emphasis on the first concept (Awareness and Appreciation) and the next greatest emphasis on the third concept (Ecological Principles). Table 19 shows the percent of activities used by the teachers for each concept and the percent of activities within the elementary manual for each of the concepts. This general pattern existed in the teacher workshops although Martha emphasized the third concept the most and Lynne emphasized the first and third equally. Among the individual teachers, the number of different concepts reflected in their activity selections ranged from one to six. Activities used by individual primary teachers covered from one to three different concepts, intermediate covered three to six, middle covered three to four, and high school covered one. For primary teachers as a group, the greatest emphasis was on Awareness and

Appreciation (73%). Intermediate emphasized Ecological Principles (33%); Awareness and Appreciation (27%); and Trends, Issues, and Consequences (17%). Middle school level teachers emphasized Awareness and Appreciation (30%); Ecological Principles (20%); and Management and Conservation (20%). The one high school teacher used two awareness level activities.

In summary, teachers primarily used the Project WILD materials in a science unit, adapting the activities to varying degrees. They tended to use them outside, in the afternoon and for 20-30 minute periods. The Project WILD concepts emphasized the most through the selected activities were Awareness and Appreciation and Ecological Principles.

Table 19

ACTIVITIES BY CONCEPTUAL FRAMEWORK

	Concept	Percent by Teachers	Percent in Book
I.	Awareness and Appreciation	34%	25%
II.	Diversity of Wildlife Values	5%	10%
III.	Ecological Principles	26%	22%
IV.	Management and Conservation	13%	11%
V.	People, Culture, and Wildlife	3%	11%
VI.	Trends, Issues, and Consequences	13%	10%
VII.	Responsible Human Action	5%	11%

Perceived Success of the Activities

"Excellent," "really good," "very successful," "real easy to teach," and "fun activities" were among the words which teachers used in discussing how well the activities succeeded. Mary proclaimed, "I would give them an A+ for fun and learning."

Two issues arise in this discussion. What were the teachers referring to by "success" and how did they determine if it was achieved? On the activity record forms, teachers were asked to identify the most effective part of the activity. These responses fell into two broad areas related to success. The activity either achieved a desired content or skill objective or some aspect of "doing" the activity was particularly enjoyable or worked well--the cutting and pasting, role playing, wearing socks over shoes to collect seeds, the movement, sharing, and acting something out. Looking at the other side, teachers were asked to describe the most ineffective part of the activity. This question was usually left blank or indicated "nothing." Most of the comments which were provided addressed classroom discipline and management concerns. These included, for example, students not following the directions or cheating, concerns related to students' attitudes, inadequate facilities or areas in which to do the activities, and parent volunteers unable to control the students while leading an activity. In general, however, teachers believed that the activities worked well as indicated below:

> If they don't succeed for us, it is because of us. (Ruth)
>
> If the teacher is turned on, excited and enthused, the students can't help but be also....If an activity fails, I blame myself. (Norm)

Another concern was related to grade level appropriateness--too easy, hard for them to get the meaning, lack of world knowledge. Teachers' view of success seemed to focus on both what students learned and on how the learning experience went.

Out of 100 occurrences of activities, only seven occasions were reported as unsuccessful or as an activity that the teacher would not do again. Three of these pertained to "Habitat Lapsit." Ben said that his seventh grade students liked it but missed the point of the activity. Emily described her second grade students as not being in the right frame of mind. Sandy's class of sixth graders had big boys and little girls who might hurt themselves if they fell and who were leary of the opposite sex. Her negative experience with this activity prompted two other teachers in her building not to try it. Sandy also did not like two other activities because they required resource materials which were unavailable from the library of her rural school. Mary had problems with the logistics of "Muskox Maneuvers" and Marsha's fifth grade students could have "cared less" about how much their lunch cost wildlife. All other activities were successful or the teacher would do an activity again but with certain changes which were usually related to management rather than to the quality or nature of the activity.

Teachers cited a variety of evidence to support their belief that the activities were successful, that students enjoyed them and that they achieved as a result of their participation in the activities. The teachers' judgments were grounded in written, oral and nonverbal feedback including, for example, student responses to oral questions, written quizzes, summary paragraphs, creative writing assignments, comments from parents, students writing or talking about the activities even days afterwards, products resulting from an activity, students playing the games on their own during recess and lunch or skipping recess to continue to work on an activity project, teachers observing students visualizing an activity in an effort to remember vocabulary, students asking if they were going to do something out of the "blue" book today, positive verbal and nonverbal responses by students when a new activity was announced, students arriving at class and asking if they were going to go outside again today, and the astuteness of students' responses.

The teachers enjoyed sharing anecdotes about the program. As part of his daily routine, Norm presented a "science word" for the day. He used "Habitat Lapsit" to teach the word "habitat." The next day, the bus driver called to him from the bus, "Hey, Mr. Paxton, your science word yesterday was habitat!" On another day, after passing back quizzes to his third period class, Mr. Paxton remarked to the class that he could not believe how many of them missed correctly matching "muskox" to "tundra" as an indicator species for that biome. He reminded them of the day that he showed them a picture of a muskox and then took them outside to become muskox cows and bulls and calves. Several students protested, saying that they had never seen that picture and had never played that game. Then he remembered that two of his four classes never experienced the activity because of an assembly and a guest speaker. The two classes that participated in "Muskox Maneuvers" scored significantly higher on that question than the two that did not. A fifth grade teacher from Caldwell Heights recounted having used "Oh Deer!" as a pretrip activity before going to Willow Springs. At the nature center, while eating their lunch at the picnic tables, a deer ran across the newly planted corn field. One student commented that he would like to give the deer part of his peanut butter and jelly sandwich. Another student responded that the deer would have enough food but what about water and shelter--all this unprompted by the teacher.

In general, teachers depended less on traditional, graded evaluation methods to assess success than on intuition and general student responses. Over half the teachers depended primarily on verbal responses from students, particularly during discussions. One teacher stated, "I think they gained what I wanted out of it. If they couldn't maybe do it on a test, they still have it somewhere--they gained that objective."

INTEGRATION INTO THE CURRICULUM

Can the use of Project WILD be characterized in any way? The developers designed a flexible program based upon a respect for teachers' ability to make effective instructional decisions within an educational context--teachers pick and choose and use Project WILD activities in a manner which best fits their instructional needs. The activity guides emphasized this individualistic approach and the inservice workshops supported it as well. The leaders for implementation valued this intent and emphasized it while also striving to make Project WILD an integral part of the existing curriculum. The intent and the ideal painted a continuum which characterized the use of

Project WILD. This continuum represents the degree of integration of Project WILD into the existing curriculum and shows to what extent teachers **anchored** the activities they selected to the scope and sequence of their curriculum. In essence, as long as teachers had an educational purpose, they could not misuse Project WILD. They could however, increase its educational potential by more firmly anchoring their useage. Teachers were given a range of options and teachers utilized this range of options. The following describes five points along the continuum which characterized the possible use of Project WILD.

In all cases, in this study, teachers used the materials in an educationally purposeful way. The activities were never cut adrift, floating aimlessly in a manner unconnected to the curriculum. This **unanchored** state, however, represented a potential use of the materials. If, for example, students sat on each other's laps in "Habitat Lapsit" without the teacher including the concept of habitat (food, water, shelter and space in a suitable arrangement), then it would have been simply a fun activity with, perhaps, _a_ purpose but not _the_ educational purpose of the Project WILD activity. One scenario in this study came close to this extreme end of the continuum. At Willow Springs, three parent volunteers were asked to lead students in "Oh Deer!" and "How Many Bears Can Live in This Forest?". Even with directions, handouts and materials provided by the teacher, the parents were unable to effectively conduct the activities in an educationally sound manner. They had trouble giving directions, controlling the students, organizing the activity, and presenting the concepts behind the activity. The father who led both activities enticed the students into cooperating by promising to play freeze tag afterwards. He shouted, "Now be quiet! The longer you take to get started, the less time we will have to play a real game." While they went through all the motions of the activity, it was questionable that, in practice, it achieved the teacher's intended goal.

At the next point along the continuum, the activities were **loosely anchored**, floating and drifting in a related but not necessarily direct connection to the curriculum. Students achieved an objective but in an isolated context, separated from the direct connection to the scope and sequence of the curriculum by days, weeks, or even months. For example, Ben, a seventh grade science teacher, suddenly found himself substituting for the physical education teacher one spring day. He selected a Project WILD activity to provide "organized running around rather than total chaos." He normally taught the concepts in the activity within his ecology unit, but that occurred in the fall. In a similar situation, Martha selected her two favorite activities to use when substituting for Denise who had a job interview. Norm chose to use "How Many Bears Can Live in This Forest?" as one of the concurrent "discovery centers" during the sixth grade camping experience. It did not relate directly to anything else at camp but it did relate to his ecology unit which he finished shortly before camp. Another teacher thought Project WILD was perfect to use during the three days before Christmas and during the last week of school. In each case, the students learned but in an isolated, loosely fit connection to the scope and sequence of the curriculum.

In the third characteristic use of Project WILD, teachers **moderately anchored** the activities in a direct but not necessarily essential connection. The teachers used their customary instructional strategies, typically the textbook, to accomplish their learning objectives. In addition, students experienced one or more Project WILD activities which enriched and extended the lesson but were expendable. In this way, activities were added and deleted without significantly altering the structure, organization, content or objectives of the teachers' lessons or units. Ruth described how she used the Project WILD activities in teaching the "Webs of Life" chapter out of the science text:

> I thought ["What's Wild"] would be a change of pace and it would be something that they would like and I guessed right on both counts.
>
> We did ["Owl Pellets"] after we had already done all the reading and questioning from the textbook.
>
> "Deadly Links" was particularly good because our textbook does have a real good lesson on pesticides and the kids got into it this year.

Ruth planned 11 activities to go with this unit and used 3 of them. In each case, she considered the activity a success but it was not essential to her goals. Deleting the other eight activities did not affect her teaching in any way. Another example involved Jan using "Habitat Lapsit" and "Animal Charades" to teach about cells in a biology class. Because there was a week of beautiful spring weather and she did not have a lab that she could do outside, she modified these two activities to suit her purposes. She raved about their success but probably would not have done them if it had been raining all week. She would have achieved her goals inside using her normal teaching strategies.

In the fourth approach, students experienced activities which were **firmly anchored** to the curriculum and which served as an essential vehicle for achieving the teachers' objectives. Removal of one or more activities would require the substitution of another strategy to retain the lesson or unit in tact. As with Alice, Norm did not use every activity he planned but he had to adjust his teaching strategy to compensate for the deletion. In discussing the value of having done a unit on ecology he stated:

> I knew I wanted to cover competition and I wanted to cover predator/prey relationships and commensalism and mutualism...I knew what order I wanted to do it in and what activities I wanted to do with that particular concept...

In his unit plan, he used lecture, discussion, Project WILD activities, filmstrips and the glossary from the book to teach about these broad concepts. Observation of his classroom indicated that if he had deleted an activity, he would have had to compensate with more lecture, discussion, an assigned reading, film strip or other strategy to achieve the intent of the activity. This approach would have characterized many of the college credit unit plans which the teachers developed for the workshop if they had been implemented as designed. In practice, however, the unit plans did not exhibit this approach. For example, Sandy wrote a unit which incorporated many Project WILD activities as essential strategies for accomplishing specific objectives listed for each day. Yet, she explained:

> It would have been nice to have had things you could have done in 15 minutes and then come back to seat work. If you were doing Project WILD you had to forget the book. I think at the beginning

> of the year it is important to get to know them and to get them outside but it is also important to get them to know that you expect them to do book work too. I think that is why I cut out some of them. I thought I was giving up too much; the kids were not getting into the habit of studying.

In this way, about half of the units would have been characterized as firmly anchored in theory but more moderately anchored in practice.

Ben inferred that using an activity-based approach to learning was an integral part of his teaching style. In fact, one of the difficulties involved in his interview was his inability to remember which specific activities he used. He drew so much from Project Learning Tree, Outdoor Biological Instructional Strategies (OBIS) and other programs and materials that he could not remember the names of the programs let alone the titles of the activities. Programs and activities blurred together. He stated, "In the ecology stuff, we do a lot of things outside other than Project WILD. This was just one more thing going on and I think they enjoyed it." He did not mean "one more thing" added on for enrichment but one more activity integrally incorporated into the curriculum.

Ben approached the fifth and last characteristic use of Project WILD in which activities were so **tautly anchored** to the curriculum that they became indiscernible as separate entities and, therefore, could not be removed. No one in the research state achieved this extreme of the continuum in practice. Several teachers and facilitators discussed their goals of rewriting their courses of study to include Project WILD as an integral part of the curriculum. Patty Beck wanted to develop a statewide curriculum model for science. She saw the opportunity to correlate Project WILD to that curriculum as a major advantage. One national leader proposed making Project WILD a "platform for good science." He was, in fact, putting this into practice in his state. Evidence of other systematic, comprehensive, integrative efforts existed but were the exception rather than the norm. The extreme end of this continuum represented the ideal, as discussed by many of the national leaders, and it would involve tautly anchoring Project WILD in every subject, at every grade level, throughout the whole school year, in every school, and in every district.

Figure 12 illustrates the continuum which characterized actual ways in which Project WILD activities were integrated into the teachers' curriculum as well as potential ways in which it could have been integrated.

Unanchored	Loosely Anchored	Moderately Anchored	Firmly Anchored	Tautly Anchored
Unconnected	Related but not directly connected	Directly connected but not essential	Essential but still discernible	Completely integrated and no longer discernible

Figure 12

DEGREES OF INTEGRATION OF PROJECT WILD INTO THE CURRICULUM

The ranges along this continuum of integration characterized the overall use of Project WILD by a teacher. It is important to remember that the terms do not represent definitive levels but patterns of use. Within each category, degrees of anchorage still varied. In addition to overall patterns of use, they also characterized individual useage. For example, as a whole, Norm firmly anchored Project WILD activities into his ecology unit but loosely anchored one activity at camp. Mary, in general, firmly anchored her activities in an interdisciplinary approach and easily justified her use of an individual activity on several grounds. However, the first activity she used was three days after the first part of the workshop. It was raining and she had gym so she did "Quick Frozen Critters." It was loosely anchored on the grounds that it "provided a bridge between graphing and ecology unit;" however, its use was motivated more by circumstances--excited about the program after the workshop and needed a rainy day gym activity.

Another aspect which becomes important in this discussion relates to numbers of activities. For example, 1 or 7 or 15 or more than 50 activities loosely anchored in a teaching episode or throughout a total curriculum could achieve the intent of Project WILD as well as 1 or 7 or 15 or more than 50 activities tautly anchored. This suggests another continuum which ranges from teachers using one activity to teachers using all the activities. By juxtapostioning these two continuums in a graph-like manner (see Figure 13), it becomes possible to more clearly characterize the use of Project WILD by the teachers in this study. The area containing the names suggests the overall pattern of this use. The placement of individual names represents tentative judgments based upon the analysis of the interviews, unit plans and some field observations. Much more extensive observation and interviewing would have been necessary to determine more completely the actual fit between what the teachers had planned to do, what they said they did, and what actually occurred.

This figure illustrates both the range of possibilities and the trends of actual use. In this study, the tendencies of these teachers were to moderately to firmly anchor the activities they selected to their existing curriculum. As a descriptive case study, this research does not attempt to evaluate or assess the differences among these uses. For example, can the same objectives be achieved to the same extent by 8 or 10 moderately anchored activities versus 4 or 7 firmly anchored activities? What differences may result from one combination of four activities over another combination in achieving the same goal? How does the individual teacher affect the learning situation? While these questions remain unanswered for the most part, the next section

Numbers of Activities Used	Unanchored	Loosely Anchored	Moderately Anchored	Firmly Anchored	Tautly Anchored
13+					
10-12			Sandy	Mary	
7-9			Marty	Marsha Norm	
4-6			Lisa Amy	Emily Tammy Ben	
1-3		Denise	Ruth Jan		

Degree of Integration

Figure 13

PATTERNS OF TEACHER USE OF PROJECT WILD

discusses a variety of factors which influenced the teachers use of Project WILD.

Additional Factors that Influenced Use

The previous discussion already indicated some factors which affected teachers' use of Project WILD. Some of these will be expanded as well as new ones addressed in the following sections.

NATURE OF THE STUDENTS

One of the most frequently mentioned factors impacting upon use by teachers and by facilitators who worked with youth pertained to the nature of the students themselves. Over half the teachers initiated discussions on this topic. Perceptions of students guided many planning decisions including the initial decision to try an activity or not. Ray, a facilitator and high school biology teacher, described his first attempt:

> I wasn't sure...I looked at the age groups on the activity and I said, "O.K., is this going to be too immature for these kids? Is it going to be just right? Are they going to get serious about it? Are they going to pooh pooh it? Just what are they going to do? When we went out and we started doing the "Habitat Lapsit" and the kids got the idea of limiting factors in nature...you could see their eyes light up and you could see it start to click a little bit and then we went on from there...They just got involved in the whole thing. It was iffy at first.

The Brownville high school teachers all expressed similar concerns about the differences among the ability levels of students and the effect that had on their willingness to try Project WILD. For example, they commented:

> I have one or two classes where I may choose to not use [the activities]...I really like one end and the other end of the spectrum and I'm not real crazy about the general level because it is a mixture of abilities. At the college level, I know what to

> expect and at the basic level I know what to expect but at the general level, they are all over the place. (Barb)
>
> With the lower level kids, you never know behavior-wise how they are going to do...I can get my better classes to do just about anything...When you have got a very diversified lower group, you can have some kids that are so withdrawn that just to get them to sit up in their chairs is a joy. I had all three classes up there sitting on each other's laps....Once they found out that they could work together, the whole class just seemed to jell and they worked together and have been working together ever since. (Ray)
>
> I know Ray did it with his kids but I can't foresee ours out there--the people with the leather jackets, those coming in high sometimes. Some of them don't come to class three-quarters of the time. I just can't see them going out there and doing the "Lapsit" or something. We'll try it but I'm not sure it is going to work. (Jan)

While the high school teachers compared their different ability groups, the elementary teachers compared this year's class to last year's class. For example:

> Last year I had 32 students all year and out of those 32 I probably had at least 5 that were real dead-end kids that disrupted anything we tried to do....I couldn't have done this last year. There was just no way because the personnel in my classroom and then, of course, the numbers....This year the children work very well with any kind of activity. (Ruth)
>
> Last year's class, everybody was unique in their own way...They would have said, "Oh! Fun!" and everybody would have been talking at one time and I would have had children in all areas of the woods...This group you don't have to talk to. Last year's group you had to be very strict with them. "Habitat Lapsit!?!" I think they would have said, "One, two, three, sit" and they would have all punched each other and yelled at each other. (Marty)

Other teachers expressed concerns about maturity level, excitability, class clowns, inability to follow directions, lack of self-control, lack of coordination and lack of creativity. In almost all instances, the teachers were addressing classroom management issues. They were unwilling or leary about conducting certain activities based upon their judgment about how well the activity would succeed with a particular group of students. As previously discussed, perceived problems with activities mostly addressed these issues. While some teachers blamed students for the failure of activities or for the activity untried, one teacher gave the students credit for the success by saying:

> I give a lot of credit to the kids because they were genuinely enthusiastic and interested enough in listening to what I had to say...We had a limited amount of time to do what we wanted to do and the more time they wasted by chattering, the less time we had to do the activity. They were told that and they responded well to it. So I would take my hat off to them in that I think they were a big part of being able to do the activity. (Norm)

This points to a crucial element in the use of the materials. The other side of this issue is the nature of the teacher.

NATURE OF THE TEACHER

Many characteristics of individual teachers also shaped and molded decisions related to use. These included, among many others, teaching and learning styles, philosophy of education, attitudes about teaching, views of the role of students and the role of teachers, attitudes towards life, willingness to try new ideas and take risks, personal abilities and aptitudes, years of teaching experience, self-confidence, personality, personal interests, and commitment to education. While few would dispute the fact that students differ and classes differ and that this, in turn, significantly affects what teachers can accomplish, the individual teacher also significantly affects what can be accomplished with the students.

Differences among the teachers resulted in variations in use. One Brownville teacher basically decided not to use Project WILD because of the nature of the students while another met the challenge. He stated:

> You can see kids that when you walk in the class you say, "Uh, oh! Here are some trouble makers!" But then you can take them by the

> nose and take them outside and once they get involved and start playing the game, they find out that this is fun... (Ray)

Two First Street Elementary teachers would not even try "Habitat Lapsit" because another teacher had had an unsuccessful experience with it. A Caldwell Heights teacher indicated that sometimes she learned more from something not going well than from an all positive experience; therefore, she willing tried different activities. Norm's personal interest in and commitment to environmental understanding was reflected in his enthusiasm for his ecology unit--he really enjoyed it and spent two extra weeks teaching it. Was Barb's belief that the textbook emphasized ecology too much reflected in her teaching and use of Project WILD? Many of these kinds of personal characteristics are interwoven in the discussions of factors in the following sections. Idiosyncrasies of individual teachers strongly influenced their perceptions of possibilities, their planning decisions, and their conduct of an activity.

CHARACTERISTICS OF THE EDUCATIONAL SETTING

While Project WILD was designed for use by individual teachers, these teachers still taught within and were influenced by the context of their educational setting. This section discusses five influential factors: the textbook, courses of study, general conditions, elementary versus secondary levels, and grade level articulation.

The Role of the Textbook

In this study, the role of the textbook strongly impacted the use of Project WILD, particularly in certain schools, although individual perceptions within schools varied. The textbook was strongly emphasized at First Street Elementary and, while all three teachers reflected this emphasis in their teaching, Ruth and Sandy felt more compelled by it than Lisa. For instance:

> ...at First Street Elementary, you had better be using the textbook. I find myself very, very limited and structured in that respect...We have a unique situation here. We are all sixth grade here and, believe me, the competition is fierce and it brings a lot of pressure on each individual teacher to make sure that we are doing the same as the next teacher...I have had parents who have had their kids sit here and keep track of what I have taught all day long. Keep a log on me! That's why I say there is pressure that comes from the community...Ideally you could teach the whole unit from the [Project WILD] activities but...children buy their books and, by golly, they had better be full by the end of the year! (Ruth)
>
> I deleted some of the workbook type things. I think that Project WILD seemed to present better ideas. I didn't completely delete any unit from the workbook but the majority we wouldn't do when we were doing some of the activities...Project WILD was maybe a little more fun than doing the workbook even though we do a lot of the science work...This seemed a simpler way of getting some of the same ideas across and the kids were getting frustrated a lot of the time with the workbook. (Lisa)

Marsha, at Caldwell Heights, stated that she did not think that she used a textbook for anything other than reading. Mary stated, "At Caldwell, it is just the attitude of hands-on. It is almost like one of the bylaws." The degree of emphasis on the textbook within a school did not seem to influence how many activities a teacher used. A range of high and low numbers existed in both these schools; however, it did seem to influence the way in which the activities were used. As indicated previously, teachers who felt bound by the text anchored their activities less firmly than teachers who were not bound. They shortened activities and deleted activities in order to complete textbook assignments. The lack of a strong emphasis on the text did not, however, guarantee a firm anchorage.

Role of the Course of Study

Closely related to this emphasis on the text was an emphasis on courses of study as required by the Department of Education. As indicated in Chapter VI, perceptions of the value of state mandates varied. The state leadership considered the state minimum standards for elementary and secondary education as a help in implementation because they required the inclusion of environmental education in courses of study. Facilitators and teachers had differing perspectives on the value and worth of these requirements. These perspectives sometimes reflected the philosophy and climate of the school. Three different views related to the course of study existed.

The first view saw the course of study as interfering with teaching or limiting teaching. The state required teachers to show a relationship between daily lesson plans and the course of study. Some schools interpreted that as a requirement to code the lesson plans to specific objectives in the course of study. Reactions included:

> I kind of dread [the idea of coding] because it is going to be more paperwork which takes away from your class. (Ruth)

> If the state mandates are helping us on the state level, I don't see it....We have to put in our lesson plans all our objectives and bring it back to the course of study and show our philosophy. We are doing more paper work than it takes to actually teach. (Tony)

> The state is coming through and saying that you need to tie everything that you do into your course of study so that, in a sense, it is going to eliminate some of this just picking an activity out of the book and doing it...If you didn't tie it in before, now you are going to have to tie it into the curriculum....We are more limited now because of the state mandates. (Tammy)

These concerns related to teachers' ability to find time to plan for Project WILD and to find a place for it in the curriculum.

In the second view, the course of study posed no problem for the educators. One reason for this was that they wrote it themselves; therefore, it paralleled their textbook or whatever they were already teaching. One person feared that the new emphasis by the state would change that situation. Others looked forward to the opportunity to write Project WILD into their course of study. Some teachers held the attitude that even though they had to teach according to the course of study, they did so much beyond its requirements that there was no concern. Related to that was the belief that they could always find some objective to justify what they were doing or that they could work around it. These ideas are expressed below:

> Once you learn your course of study, it seems like there is always an objective in there that fits your supplementary materials. (Tammy)
>
> [I use the course of study] as a guide. We usually do a lot more beyond that. We are sure to cover everything. (Amy)
>
> I don't find people who are going to teach at [Caldwell Heights] are worried about the course of study....For the experienced teacher, you do so much more than cover it that it is really not a factor. (Martha)
>
> I think we are letting you inside on some of the internal policies. We have got that graded course of study, but just because you fill-in a check mark doesn't mean you actually did what you said you did. (Wayne)

Finally, two people believed that the course of study was helpful. They stated:

> They are putting more emphasis on [the courses of study] but I think that is because we got too relaxed on what we were doing here. There can be too much repetition through the grade levels and I think it is good that they are putting more weight on the courses of study....I think we need the structure....All I'm doing now is labeling what I'm doing. I'm not doing anything a whole lot different than I was before. (Tammy)

> I can see the things filtering down--the new rules and regulations and laws about teaching environmental studies and including them in the curriculum. I have seen as a substitute, teachers complaining because they don't want to. They want to stick with the math and the science and reading straight from the book...It is difficult to take kids and run them through something like Project WILD if you have never done it before. It is easy to stand up there and lecture and be boring....I'm hoping that the [new standards] will be enough of a push to get people to move on it. (Mary)

In this way, some teachers perceived the course of study as a hindrance or limiting factor. Most saw it as neither a help nor a hindrance. Few supported the state level perception that the mandates would help in the implementation of Project WILD.

General Conditions Within and Outside of the School

The teachers were asked to identify conditions which existed within and outside of their school building that helped or hindered their use of Project WILD. Seven teachers cited the support of the principal as the most helpful condition. In addition, five mentioned their superintendent, resource teacher and chairperson. Even though Project WILD was designed for individual teachers, these individual teachers believed that administrative and supervisory support was helpful to them. In addition, two teachers cited the lack of support by the principal as a hindrance. The importance of administrative support was also mentioned by state leaders and facilitators. Five teachers (four from Caldwell Heights) believed that the school's environmental or outdoor education program was most helpful. This was also mentioned by facilitators and state leaders. A new idea presented by teachers addressed the availability and adequacy of physical facilities. Seven teachers thought their school grounds, building, and access to a natural area were positive factors. Others mentioned problems with scheduling the gym, walking along the road to the ecology center, having an all gravel playground, and not having a large indoor open space. In a similar way, several teachers discussed the availability of materials and equipment as a positive factor and the lack of it as negative. The presence of or lack of parental and community support was also mentioned by four teachers.

Elementary Versus Secondary Level

Another issue addressed why Project WILD was used by more elementary teachers than secondary. Every secondary teacher interviewed believed that the materials were appropriate for secondary students and that they would enjoy them. In discussing possible reasons why fewer secondary teachers used the program, several topics were discussed. The primary explanation pointed to a subject matter and college-prep orientation. They believed that secondary teachers like content, facts, and figures and that they have to teach to tests. Several suggested that Project WILD was lacking in that area--more fun than fact. In addition, some believed that high school teachers may not perceive a need for the materials (i.e., increased burden), feel they are doing a good enough job, see the materials as simplistic, and prefer lecture to activity-based learning because it is more time efficient. Most people believed that the elementary setting provided more opportunity and flexibility to use Project WILD and that the materials were inherently more appealing for elementary teachers. Some indicated that primary teachers are constrained by the need to teach the basics.

Grade Level Articulation

Finally, several teachers discussed grade level articulation. Both Norm and Tammy were concerned about general overlap between the grades. Norm wanted to designate certain Project WILD activities for certain grade levels. The teachers at Caldwell Heights, where every teacher used Project WILD, saw no problem with repeating activities. They talked about each teacher "pushing" an activity further, changing it for different grade levels, introducing new concepts, and having different teaching styles. They commented that students also enjoyed repeating the activities much like reading their favorite books over and over again. Several facilitators expressed concerns about students repeating activities. One thought Project WILD should be coordinated with the science program but also recognized that a fourth grade teacher would do an activity differently than a second grade teacher. Another said that he would stop using the program if students told him that they had done it before, unless it occurred several grades before his.

NATURE OF THE PROGRAM

The overall nature of the Project WILD materials influenced their use. With rare exception, teachers found them appealing, practical, easy to integrate into the curriculum, worthwhile, well organized, quick and easy to use, well written and helpful. The following comments reflect their opinions:

> I think the way they are written is just great! The lesson plan is excellent. You can tell it was written by teachers. (Ruth)
>
> I really liked the way they were written. It is easy to read and you can glance through it and know what you are going to do. (Marty)

> We are going to be required to put down specific objectives so the fact that they are in there will be helpful. (Lisa)
>
> I think it is great! That is how I would write up a lesson plan form. (Tammy)
>
> Oh, I like them! I think a person who has just been introduced to that would feel comfortable reading that and saying this is the idea that you get from this and this is how to go about doing it....I like the way the whole book is set up. (Marsha)

Almost every feature of the activity guides was mentioned by at least one person as helpful. The most frequently mentioned were the topic index, lesson objectives, and the lesson plan format. The only feature mentioned as not helpful was the curriculum framework.

Out of all the interviews, only a handful of negative comments appeared about the materials. Most were minor suggestions for improvement (put the alphabetical listing of activities at the end of the book, highlight the numbers for each of the procedures). One person wanted the activities grouped differently, perhaps by topics. One person who liked the activities and thought they were very practical also indicated that there were some which were poorly written, but she did not specify in what way.

The criteria that teachers used to select activities, as previously discussed, also reflected the nature of the program. They chose activities which were short and did not require much time to prepare, were easily integrated into the curriculum, personally appealed to them, were not complex or hard to do, and did not require materials or information which were difficult to obtain. These criteria reflected the real world of these teachers and some of the constraints which governed their planning. The fact that they found activities which met these criteria was not surprising since Project

WILD was in large part developed by teachers for teachers. Based upon the positive responses by these teachers to the activities that they used as well as their overall reactions to the materials, it is possible to infer that these criteria also described the overall nature of the program.

As discussed before, some controversy surrounded the nature of the materials based upon perceptions that the program was pro-hunting or anti-hunting. Among the teachers, only one person supported one of these views. At the very beginning of her interview, Marsha initiated a discussion about the pro-hunting aspect of the materials. Her comments included:

> There are overtones in this. I feel that they are saying that hunting is permissible...there are little innuendos....I like more of the self-balancing approach to ecology--food, water, that kind of thing. We don't necessarily need wildlife for food....It seems apparent to me what they are getting across and I don't like the objective of it. And if I can change it and make it more factual and not lean towards that then I'll choose it, but otherwise I won't....It's written effectively and I feel that if you write something effectively you can do what you want to do without being blatant. And I feel that is what they have done. I feel that the end result was exactly what they wanted. (Marsha)

Among the other teachers, seven saw no aspects that they considered controversial and five said that they had not seen anything yet. Three teachers discussed the fact that Project WILD contained "issues" for discussion but did not view these as controversial. Two teachers commented:

> I do not really consider anything controversial. If it is teaching children something, it is good. (Ruth)

> I don't think the activities themselves are controversial in a sense of whether or not they belong in school. (Tom)

Finally, the Project WILD materials were designed as supplementary and interdisciplinary. While all but one teacher believed that there was room in the curriculum for supplementary materials, they varied in how often they used them. Eight stated that they used them a lot and six used them some. Ten believed that they were encouraged to use them. Finding time to use them and integrating them into the curriculum were both concerns expressed. In general, the supplementary characteristic of Project WILD appealed to the teachers. This was not true, however, for the interdisciplinary dimension. While nine teachers indicated that they believed that interdisciplinary materials were useful, only five used them. Four of those teachers taught at Caldwell Heights where they were encouraged to integrate environmental education throughout the curriculum. Nine teachers stated that they did not use them often. Some of the reasons for not using them included: problems with team teaching, not a self-contained classroom, not enough time in a 40 minute period, not emphasized, and schedules in secondary schools prevent team teaching. Project WILD appealed to many of the teachers specifically as an aid in science; they did not need help in the other areas.

SUMMARY

An interlocking web of factors influenced the way in which teachers perceived and used Project WILD. Management and discipline concerns related to the nature of students determined if the program was used, which activities were used and how much the activity succeeded. Yet, perceptions of the nature of students were shaped by the attitudes, philosophies and behaviors of teachers. These in turn were shaped by the educational setting. At times, conditions in the schools facilitated use. At times they hindered use. Similar situations occasionally prompted opposite decisions. Opposing situations sometimes prompted similar decisions. Throughout this interplay which molded and shaped the teachers and their decisions, the teachers still remained molders and shapers in their own right. Within their context, they determined what happened with Project WILD. They made the first decision--will these materials help me to achieve my educational goals and objectives?

Summary and Conclusion

The educator level first involved the translation of the Project WILD leadership workshop by the facilitators into an effective inservice education experience for local teachers. These teachers then decided whether or not to translate their workshop experience into educationally meaningful learning experiences for students in their classrooms. If the teachers did decide to implement the Project WILD materials, they then had to decide which activities to use and in what manner they would use them, given the overall context of their teaching situation. The classroom teachers had little knowledge of, interest in, or involvement with the larger context of curriculum implementation as it has been unfolded throughout these chapters. They did not even know which agencies sponsored Project WILD in the state. Consequently, this concluding section focuses on the two elements within the implementation model which directly related to teachers--the teacher workshop and teacher planning and use.

TEACHER WORKSHOP

The facilitators' activities at the local level confirmed the findings in Chapter VI pertaining to characteristics of effective workshops. The teachers' perceptions of the workshops and their evaluation of them paralleled those of the facilitators after their workshop. Participation in the activities was viewed as the most helpful part along with peer teaching. As with the facilitators, the teachers liked the overall format of the workshop, especially participating in the activities. Some participants would have been receptive to more content and techniques on integration. The teachers strongly supported the workshop policy and were less willing to make an exception to the rule than participants at other levels. They evaluated their workshops very highly.

Multiplier Effect

The main message about inservice education in this chapter concerns the use of the multiplier effect. All the evidence indicated that this approach worked. One issue related to this method involves the degradation of the quality of the workshop as it passes through the various levels. This did not occur. Evaluations remained positive even in the more adverse circumstances of a four-part required secondary education workshop. This perhaps may be attributed to three key factors. First, the national steering committee established a structure for the inservice program which encompassed many of the characteristics of effective inservice education. These were discussed in Chapter VI and include, among others, local and school based programs, demonstration and practice in the workshop, variety of strategies, practical ideas and materials, teacher involvement and quality leadership. Second, the state leadership modeled these qualities of an effective workshop for the facilitators at the leadership workshop. They provided opportunity for practice as well. The patterns of this leadership workshop were clearly evident in each of the teacher workshops. Finally, the nature of the materials themselves served as a safeguard for the whole process. Their high quality and practicality may have compensated for possible weaknesses within a workshop.

Concerns Based Adoption Model

Although the teacher level does not expand greatly upon the model of curriculum implementation, one of the change models provides a bridge between inservice education and classroom use. The Concerns Based Adoption Model (CBAM) addresses three aspects of change: user concerns about the innovation, how the innovation is actually used, and ways in which the innovation can be changed to meet the needs of the user. While this model was not applied as a research tool, it provides another way of looking at what occurred at the educator level.

As outlined in Chapter II, this model suggests seven stages of concern (SoC) about an innovation. At the awareness level, teachers have little concern about or involvement with the innovation. For Project WILD, few teachers knew anything about the program prior to learning about the workshop. The informational level provides a general awareness of and interest in learning more about it. For some participants, this first involved one-on-one contact with a facilitator or an informational flyer which stimulated interest in the program.

For others it began at the workshop. In the third stage, personal, individuals are uncertain about the innovation, their inadequacy, and their role. At this point, workshop participants may have thought about the nature of their students and their ability to manage some of the activities, they may have questioned the value of the program and its place in their curriculum, or they may have felt the pull between the textbook approach and an activity-based approach. At the management stage, teachers confronted the processes and tasks related to the program. They thought about unit plans, questioned how well the activities would correlate with the text and their curriculum, wondered how to obtain owl pellets, and began to mentally try out the activities with their students. The impact of the program is examined at the consequences stage. Here teachers were concerned with how well the activities worked and if in fact the students learned. They needed to determine the value of the program and the worth of continuing its use. The last two stages were not reached by the teachers in this study but relate to the ideal use envisioned by the leaders. Collaboration involves coordination and cooperation with others. Refocusing explores universal benefits from the innovation.

The second dimension of CBAM addresses eight levels of use (LoU) or the degree of implementation. It begins with non-use in which the user has little or no knowledge of the innovation. Again, this characterized most of the people in this study prior to the workshop. During orientation, the teacher acquires information and explores the value orientation and the demands of the innovation. For most of the teachers, this began to occur at the workshop. The inservice provided the opportunity to try out the activities and discuss their application to a teaching situation. At the preparation level teachers actually wrote unit plans, prepared their materials, obtained additional information from the library, and carefully read the directions for the activity. Mechanical use involves short-term use with little time for reflection. In this study this related perhaps to the loosely anchored approach. Teachers picked up the activity book and used it in a cookbook fashion with little thought about how it fit in or how best to have adapted it to their situation. Routine use is more stabilized and might relate to moderately anchored integration. In refinement, the user varies the use of the innovation to increase the impact. The teacher who firmly anchored the activities saw them as a vehicle for achieving specific and substantive objectives. Changes were made as necessary to assure that the activities best served this purpose. As with the stages of concern, no teacher in this study reached the levels of integration and renewal which might parallel tautly anchored integration.

The CBAM model uses knowledge of the SoC and LoU to provide additional inservice efforts to help teachers advance through the stages. This brief overview of CBAM as related to the implementation of Project WILD confirms the fact that implementation does not just occur as a result of inservice but that it evolves and that people within the process develop to different points. Their development and degree of use relates directly to their concerns. As practiced, participants in Project WILD were pretty much left without inservice follow-up aimed at alleviating their concerns and increasing their levels of use. Interest in the longevity of the program and its incorporation would suggest the need for on-going inservice and workshop follow-up. This, however, became extremely difficult in light of the volunteer nature of the implementation process of Project WILD.

TEACHER PLANNING AND USE

The literature on teachers' thought processes identifies activities as one of the major factors in teachers' decisions about planning and identifies different factors which influence these decisions. Those listed in Chapter II and discussed by teachers in this study included: location of the activity, subject matter, sequence, acceptable student behavior, availability of materials, time of day and duration of activity, instructional moves, and student expectations. Characteristics of successful activities identified in the literature which matched qualities of Project WILD included action-oriented, use of artifacts and objects, teacher as a facilitator, use of informal evaluation, increased student motivation and involvement, not difficult, and good way to teach content. Many of these were mentioned or inferred by the teachers. They were all dimensions of activities which directly or indirectly impacted upon use.

Classroom management is recognized as another factor influencing planning. Calderhead (1984) suggests that teachers like activities which involve students because they decrease management concerns. While some teachers in this study would readily agree with this, others perceived the highly active nature of the activities as creating or compounding rather than alleviating management problems.

Time was a consideration. Teachers tended to teach about wildlife and the environment in the fall and spring when the weather was nice. Some who attended a workshop in the spring did not use Project WILD because they had already taught their animal unit or they had already planned for the year and no longer had room for it. Finding time to plan in general or for a specific activity which required much preparation concerned teachers. In implementing their unit plans, teachers ran out of time and deleted activities or modified them to meet time constraints. One teacher preferred 15 minute activities so that she could fit them in more easily. In these and other ways, time governed planning.

The significance of the textbook as a determiner in planning is well documented in the literature as well as the use of units as the major form of planning. In this study, most teachers built their units around the science textbook. They first selected a content topic from the book and then planned the unit. The extent to which the textbook controlled the unit varied but its influence was almost always evident. In some cases the text preempted the Project WILD activities.

Finally, the context of teaching, as discussed in the literature, was also an issue in this study. Administrative support facilitated implementation according to these teachers. The nature of the facilities and the availability of equipment helps or hinders planning. These were constraints mentioned by teachers. The focus on environmental education strongly influenced the use of the materials in one school. It promoted planning and use of a hands-on, interdisciplinary approach not achieved in any other school. The value of teaching wildlife education was also evident and lacking and, therefore, influenced decisions. The elementary setting was often perceived as more conducive to Project WILD than the secondary setting although secondary teachers who used the program responded very favorably to it. Perhaps the most firmly anchored integration by anyone in the study was achieved by a facilitator who was a secondary biology teacher.

How these teachers planned confirms major findings in the literature on teachers' thought processes related to planning. Their decisions were strongly influenced by activities, classroom management concerns, time, content and context. The findings from the educator level also relate to other key points in the literature.

DISCUSSION

The significance of the **role of the classroom teacher** dominates this chapter. Respect for teachers as individuals and their ability to meaningful implement Project WILD permeated this process. It was evident within the materials by the emphasis on an individualistic approach. Acceptable use included one loosely anchored activity or 80 tautly anchored activities. Even nonuse was accepted. One teacher protested that he just did not see where Project WILD could be integrate throughout the curriculum because it did not fit into everything such as drug education or even chemistry. That was not the expectation. Project WILD was a tool to assist individual teachers in a manner suitable to their needs. The leaders had ideals but the intent was clear. The materials enabled the teachers to use the activities in a cookbook fashion or to fashion totally new recipes with a few or many ingredients drawn from Project WILD as well as other sources.

A second major factor influencing implementation was the **nature of the innovation.** The complexity and scope of change are cited as the most influential factors. Again, Project WILD was designed for easy integration. It did not require significant changes in teacher behavior although it provided the opportunity. Teachers eased themselves into the program, first trying an activity as written and later perhaps adapting it and others. Concern arises over discussions of the impact of change. The literature suggests that while complex changes are more difficult, they are longer lasting. This remains a major concern within the field of environmental education. In an area mostly perceived as a "special interest," few envision radical change as a result of a single program but many look at the cumulative affect of a variety of programs and see the potential for more broad based change. Project WILD individually represented simple change; as one among other environmental education programs, it represented an effort at a more complex scope of change.

In addition, other characteristics of the innovation affected implementation. Clarity about goals and means was evident in this study. Throughout all levels, participants expressed similar perceptions of what the program was about and how it went about achieving it. Program match encompasses the idea of meeting perceived needs, centrality, compatibility and consonance. In other words, to what degree did harmony exist between Project WILD and the goals and objectives of the teacher, the goals and objectives of the educational setting, the felt needs of the teacher, the teaching style and philosophy of the teacher, and the perceptions of the value of the program? Practicality is a major issue. Teachers selected activities which were easy to use, fit into their curriculum, involved little planning, required few if any extra materials and information or employed easy to obtain materials and information, met their time and physical facilities constraints and opportunities, and matched the nature of their students. Closely related to this is the overall quality of the materials. Teachers described Project WILD as well written and well organized. They recognized that it was developed by teachers and was presented in a format appealing to teachers. Two other important and interrelated characteristics of Project WILD were the built-in flexibility and the role of the teacher. Whether or not Project WILD was used and how was left to the discretion of the teacher. The program provided for a range of uses; therefore, the nature of the program in practice reflected the decisions and actions of the teacher.

Again, the **gap between the "ideal" and "reality"** did not pose a problem for the implementation of Project WILD. The program, through its written materials and leadership, outlined the range of possibilities for implementation. It accepted reality while striving for the ideal. The use of Project WILD was characterized by a continuum of integration illustrating varying degrees of anchorage of the activities to the scope and sequence of the curriculum. The "gap" for meaningful use of the materials ranged from loosely anchored to tautly anchored. The latter was not achieved; however, the other approaches were considered meaningful and useful methods of implementation, reducing significantly the width of the gap.

Characteristics of the adopting unit also played a part. While the teacher, at the local level, was typically the adopting unit, the educational setting in which that teacher worked influenced implementation. In this case, support by administrators and supervisors, degrees of emphasis of the textbook, perceptions of the role of the course of study, difference between elementary and secondary levels, and concerns over grade level articulation all influenced implementation.

The educator level supported the use of inservice education as one of the most effective **methods and strategies** used to help introduce and implement an innovation. The trainers of teachers approach worked. Quality was maintained throughout the levels and flexible approaches met local needs. The use of follow-up techniques, however, was not very evident. For the most part, resource support was not an issue at this level once the teachers received their activity guides. Little was required in terms of funding, materials and facilities. Time for some teachers was an issue.

PHASES AND FACTORS

The educator level concludes the flow of the implementation process of Project WILD in the research state. Figure 12 presents a final overview of the phases and factors which shaped the process. In general, the teachers planned and implemented Project WILD unaware of their position within this process. They knew little of the determinants of implementation and of the efforts involved in initiation and adoption. Even at the implementation phase, their perceptions were limited--they participated in an inservice education workshop where they received Project WILD materials to use at their discretion in their classroom. While they did not discuss many of the factors listed under the implementation phase, they did not remain untouched by their influence. How many people attended workshops, how many of them used the materials, and what they achieved in their classroom reflected the first three phases and the associated factors. What they achieved in their classrooms impacted on the last two phases. Degree of integration directly relates to incorporation. A loosely anchored program may soon be forgotten. A firmly anchored program can become an essential part of the instructional strategy and curriculum. A tautly anchored program perhaps becomes institutionalized. The degree to which students achieve teachers' desired goals and objectives also impacts the implementation process. If educational results are not achieved, implementation will not continue. In this study, all the teachers who used the program planned to continue their use.

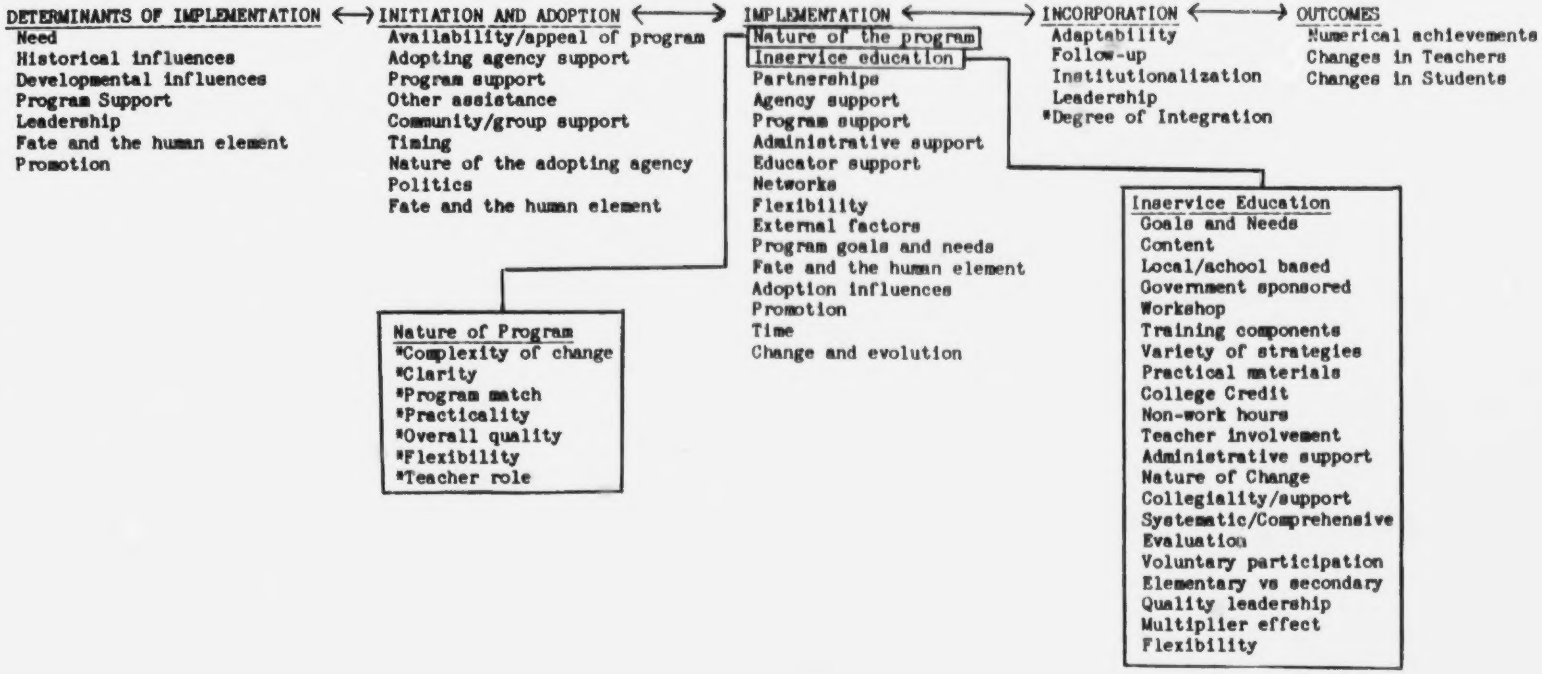

DETERMINANTS OF IMPLEMENTATION
Need
Historical influences
Developmental influences
Program Support
Leadership
Fate and the human element
Promotion
INITIATION AND ADOPTION
Availability/appeal of program
Adopting agency support
Program support
Other assistance
Community/group support
Timing
Nature of the adopting agency
Politics
Fate and the human element
IMPLEMENTATION
Nature of the program
Inservice education
Partnerships
Agency support
Program support
Administrative support
Educator support
Networks
Flexibility
External factors
Program goals and needs
Fate and the human element
Adoption influences
Promotion
Time
Change and evolution
INCORPORATION
Adaptability
Follow-up
Institutionalization
Leadership
*Degree of Integration
OUTCOMES
Numerical achievements
Changes in Teachers
Changes in Students
Nature of Program
*Complexity of change
*Clarity
*Program match
*Practicality
*Overall quality
*Flexibility
*Teacher role
Inservice Education
Goals and Needs
Content
Local/school based
Government sponsored
Workshop
Training components
Variety of strategies
Practical materials
College Credit
Non-work hours
Teacher involvement
Administrative support
Nature of Change
Collegiality/support
Systematic/Comprehensive
Evaluation
Voluntary participation
Elementary vs secondary
Quality leadership
Multiplier effect
Flexibility

Figure 14

IMPLEMENTATION OF PROJECT WILD:
PHASES AND FACTORS AT THE EDUCATOR LEVEL

CHAPTER VIII

SUMMARY AND CONCLUSIONS

Supplementary instructional materials sit in a storage room. Fifth grade students learn about complex ecological principles. What happens in between? What process brings a set of learning materials into the hands of teachers and into the lives and minds of children?...Does the warehouse actually represent the beginning point? Is student learning the finale?

So began the discussion on curriculum implementation in Chapter I. This document describes and discusses that process as it related to the implementation of Project WILD in one midwestern state. Before summarizing the findings which provide some answers to these questions, it is helpful to look again at the context of the program. Project WILD was designed as a supplementary environmental education program. This places it first into the realm of discretionary materials. While many of the factors related to the implementation of Project WILD might and probably do relate to district and state adoptions of textbooks or instructional packages, for instance, others may not. Required, as opposed to optional, creates another whole set of factors. Second, as an environmental education program, it was perceived by many as a "special interest" area, as an extra, as non-essential, as not part of the existing curriculum. Third, the implementation strategy for the program depended largely upon the use of volunteers to conduct workshops. At the time of the research, the state had an estimated equivalent of less than a half-time paid facilitator in the combined efforts of the two state coordinators. Add to this the unchanging nature of the culture of the school and the task of implementing Project WILD appeared formidable; volunteers worked to integrate optional materials into a resistant educational setting.

Looking at the big picture, the impact of Project WILD may appear to be minimal. During four years of implementation, approximately 98,000 educators participated in Project WILD workshops nationally with an estimated 4,000 in the research state. Conservative estimates suggest that 7,500,000 students were reached nationally during that same time period. Project Learning Tree reached approximately the same number of educators but it required 10 years, not 4. These figures represent small percentages in the big picture; however, within the context of a supplementary environmental education program, these figures represent major accomplishments. In this light, the findings from this study are summarized and discussed. The first presents an overview of the chronology of events from the four levels. The second section reviews the model of phases and factors affecting curriculum implementation and its implications for practice. The third section discusses the major findings of the study in light of the model and in the context of the literature. The final section discusses implications and recommendations resulting from the research.

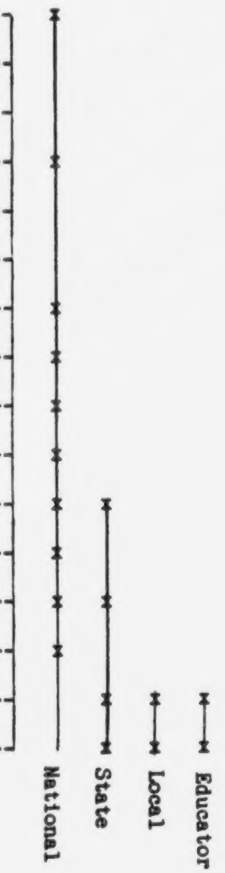
Chronology of Events

Table 20 identifies the major events involved in the implementation of Project WILD at the national, state, facilitator (local) and educator levels. It illustrates the long history of the implementation of the program--14 years prior to implementation in the research state--and the overlapping of events--implementation began during development and during adoption.

Table 20

OVERVIEW OF CHRONOLOGY OF EVENTS

WREEC BEGAN*	1970
	1971
	1972
PLT DEVELOPMENT BEGAN & FIRST IDEAS FOR A WILDLIFE PROGRAM	1973
	1974
	1975
PLT IMPLEMENTATION BEGAN	1976
1ST WAFWA RESOLUTION	1977
2ND WAFWA RESOLUTION	1978
PROJECT WILD DEVELOPMENT PROPOSAL; DISCUSSES IMPLEMENTATION	1979
DEVELOPMENT BEGAN Research state interested	1980
PILOT TESTING	1981
IMPLEMENTATION PROPOSAL; FIELD TESTING Wildlife Agency contacts national	1982
IMPLEMENTATION BEGAN WITH 20 STATES	1983
DOE signs contract; 1st facilitator workshop; 1st teacher workshop	1984
1st and only advisory council meeting; 2nd and 3rd facilitator workshops; teacher workshops continue	1985



(*Upper case letters = national level; lower case = state level.)

Phases and Factors

Through the unfolding of the events at each level, a model emerged which illustrates five general phases in the process of curriculum implementation and the factors which shape the process. While these phases and factors may be discussed individually, they do not exist in isolation. Understanding of the process depends upon examining the parts in relationship to the whole and in the context of the interplay between and among the various elements. The following synthesizes the discussion of the phases and factors from the four data analysis chapters.

DETERMINANTS OF IMPLEMENTATION

Events preceding implementation at the national and state levels significantly affected implementation. A felt need served as a catalyst. Leaders at both levels perceived a need for educational materials. Some wanted generic wildlife education materials, some wanted environmental education and some wanted science education. These varying needs were eventually met by Project WILD. The impetus for the program itself grew out of the need for cooperative efforts between educators and resource agency people in the western states. Historical influences related to people, things and events drove much of this process in the beginning. People's prior knowledge of and experience with Project Learning Tree, Project WILD as well as other innovations, other inservice programs, and environmental education set the stage for development and implementation. History of cooperative efforts (and lack of) between and among people and organizations facilitated and hindered development and implementation. The developmental influences probably emerged as one of the strongest determining forces. The development process resulted in the strengthening of the bonds between educators and resource people, production of high quality materials which appealed to educators and which met individual and agency needs, involvement of teachers as active participants and contributors, creation of an audience waiting in line for implementation, and conceptualization of the strategies and time line for implementation. The roots of implementation began in development. In the beginning, program support, in terms of philosophical backing and resources (e.g., funding, human resources, services) and leadership came from a pool of sources rather than from an entity that could be identified as "the" program; yet, the collective effort formed a supportive structure which facilitated program development and implementation. Initial promotional information and materials sent to the individual states positively and negatively impacted implementation based upon its form, frequency, timing and recipient. In this way, how someone heard about the program, when, from whom and how often guided decision-making. Finally, fate and the human element appeared as a significant intangible element which cannot be ignored or discounted in these events. Fortunate circumstances as well as qualities and characteristics of people accounted for much of this story.

INITIATION AND ADOPTION

Whether or not a program is considered and approved for adoption depends upon another set of determining influences. In this case, individual perceptions of the availability and appeal of the program were crucial. Project WILD drew opposite reactions at first from the potential adopters; one viewed it as complicated and lacking in innovation and one regarded it as high quality and exciting and as a good training model. The importance of *support by the adopting agency* in terms of philosophical backing and resources (e.g., funding, staff, time and support services) cannot be overestimated. Within the Department of Education, its presence facilitated the decision to adopt by one section and impeded adoption by another section. These decisions were based upon availability of funding, differences in missions, and perceptions of the role of the agency in sponsoring programs. The Wildlife Agency at first believed that Project WILD was incompatible with its philosophy on consumptive use. In this phase *program support* from the national level was definable in terms of having a steering committee, a director and expectations of that support (e.g., assistance with leadership workshops, coordinators' conference, implementation guidelines). The availability of this support positively influenced decisions along with knowledge of the potential for *assistance from other sources*. From the Department of Education's perspective, the Wildlife Agency and the Conservation and Sportsmen Organization could provide some opportunities which were beyond the scope of the department and broaden the support system for the program. *Support, pressure, or opposition from the community or other groups* worked for and against the adoption of the program. At both the national and state level, many people positively supported and promoted the program which encouraged adoption. At the national level, pro-hunting and anti-hunting groups attempted to discourage adoption.

Timing was perceived as more of a determiner in this situation than it perhaps was. Having the most appropriate agency, based upon the tradition established by WREEC, was more important in deciding who would adopt than who might have submitted the contract first. The Wildlife Agency and/or the Department of Education, regardless of initial interest, would have been given the first right of refusal over any other group. Related to this is the nature of the adopting agency as a determiner of adoption. Characteristics which were perceived as impacting adoption decisions were credibility, vested interest, access to different audiences, procedures and policies, and authority and responsibility. Internal and external politics played a significant part in the final decisions in this case. A change in administration at the Wildlife Agency reversed an adoption decision and support from the governor's office facilitated the decision by the Department of Education. Fate and the human element affected adoption. Individual interests and personalities resulted in advocacy for the program and recommendations against the program. Being in the right place at the right time created opportunities for one person which were unavailable to another person.

IMPLEMENTATION

In the third phase, the actions and strategies undertaken to put programs, policies, and practices into use were not immune to the influence of a wide variety of factors. The nature of the program and inservice education were probably the two strongest determiners of implementation. Seven characteristics of the program were identified directly or indirectly by participants as affecting their decisions to use the materials. The complexity of the change involved with Project WILD fell under the category of "ameliorative innovations" or those which are designed to make some ongoing practice better or more efficient without challenging values and traditions (Romberg and Price, 1982). This quality appealed to the teachers in the study and supported efforts at implementation. Other characteristics cited included clarity (goals and means), program match (harmony between the program and the teacher's world), practicality (ease of use and integration), quality (overall appeal), flexibility (adaptable to teachers needs, goals and setting) and role of the teacher as the determiner of use. Since teachers perceived Project WILD as meeting these characteristics in a positive way, the nature of the program became a strong influence on use. In addition to these seven characteristics, the supplemental nature of the program influenced implementation. As optional instructional materials, teachers could chose whether or not to participate in the program and to what extent.

The inservice education approach of Project WILD exhibited most of the characteristics of effective programs discussed in the literature. First, it was designed to meet individual goals and needs as perceived by facilitators and teachers. As an open, flexible system, it did not impose a predetermined set of goals upon the user. The approach combined the advantages of a local and school-based program with the advantages of a government sponsored program. While the use of a one-day workshop is not strongly supported in the literature, the participants in this study believed it was very helpful and supported it as an implementation strategy. In addition, the use of presentation, modeling, practice and feedback as *training components* was valued. Its effects were evident in the translation of the workshop experience through the different levels. Participants cited the use of a *variety of strategies* and the *practicality of the materials* as positive aspects of the workshop. The workshops supported the consistent theme throughout Project WILD of *involving the teacher* and strove to build *collegiality and mutual support*. Even though the program was designed for implementation by the individual practitioner, teachers believed that administrative support of inservice programs was important. The *nature of the change* is also an issue for the inservice program because workshops are more likely to succeed at fine tuning existing approaches than making major changes in teacher behavior. The fact that Project WILD fit the description of fine tuning probably contributed to the success of the workshops. The *content* of the workshop addressed change in knowledge, skills and attitudes. *Systematic and comprehensive planning* and *quality leadership* proved essential to the success of the workshops in this study. The state leadership considered *evaluation* important. In addition, facilitators preferred *voluntary* workshops and felt that meeting the needs of *secondary* teachers was more difficult than *elementary*. Participants believed that the use of a *multiplier effect* was a strength of the inservice program. This points to the value of *flexibility* in the inservice approach. While the multiplier effect resulted in an efficient way of spreading the program in terms of numbers, it also provided the opportunity to adapt the program to local circumstances through the use of local facilitators.

Among the remaining factors which affected implementation, support emerged as a major concept. It has deliberately been subdivided by the source of the support because it varied in nature as well as affect depending upon the source. For example, a strong base of support by teachers would have remained untapped if the state sponsoring agency could not have provided the financial backing to purchase the activity books and provide facilitator workshops; however, activity guides would have sat in storage if facilitators and teachers had not supported the program with their interest, enthusiasm and commitment. Philosophical backing and resources from the agency's administration fed the program. On the other hand, administrative support at the local level, while helpful, was not crucial. Program support from the national level at times was essential and at times facilitative. Quality leadership at the state level was cited as helpful in guiding the program. In addition, a growing Project WILD network supported implementation.

Finally, a number of other factors impacted this phase. The overall program goals and needs which determined the direction of implementation were consistently perceived by participants from all levels. This contributed to a unified effort. The partnership between the Department of Education and the Wildlife Agency provided opportunities in terms of ideas, materials, funding, personnel, and networks which were perhaps beyond the scope of each individual agency. It also created a wholeness by merging the two agency's and their personnel's abilities, philosophies, emphases and capabilities. While this union was not without minor weaknesses, its significance in shaping implementation within the state cannot be under estimated or ignored in understanding the process. In addition, the cooperation of the Conservation and Sportsmen Organization complemented the partnership. Equally important were the ramifications of fate and the human element. Individual personalities, abilities, skills and personal qualities as well as the chance circumstances which brought individuals and groups together molded implementation. This factor was evident in the evolution of the leadership team, personal dynamics, and the "personalities" of different workshops. External factors which positively and negatively influenced implementation at the different levels included educational trends, opposition to the program from pro-hunting and anti-hunting groups, state mandates, community and parental support, and attitudes towards the value of environmental education. Adoption influences related to decisions made during the adoption phase impacted the implementation phase--who adopted the program and why, creation of the partnership, plans for the first workshop, and time line for implementation. The nature and extent of promotion related to how people found out about the program and workshops and what they knew about the program prior to attending a workshop. Time influenced planning of workshops and levels of participation. Finally, implementation was not a static process. Its quality, ability to meet needs, and longevity depended an ability and willingness to change and evolve.

INCORPORATION

The fourth phase involved continuation of the program at all levels. Adaptability emerged as a strong influence on longevity. Both national and state leaders foresaw the need for change and evolution in order to meet changes in needs, trends, and audience and in order to keep the program looking fresh and appealing. Follow-up appeared at all levels as useful if not essential in promoting longevity. State and local leadership was cited as important in terms of quality, continual, enthusiastic and committed. Finally, incorporation depended upon the level of integration of the use of Project WILD. National and state leaders spoke of institutionalization of the program within agencies and within schools. They sought permanent kinds of agency structures (policies, personnel, budget) that would assure longevity. For schools, they spoke of correlations with textbooks and courses of study and of fusing the program with science curricula. At the teacher level, continuation depended upon the degree of integration with loosely anchored usage less likely to result in long-term incorporation than firmly or tautly anchored usage.

OUTCOMES

Intended outcomes of the program were not addressed as clearly as perhaps they should have been. Most participants agreed that use of the materials was the overall goal of the workshop and that assisting learners in developing awareness and understanding about wildlife and the environment resulting in responsible human action was the intent of the materials. How to determine if these goals were achieved was not clearly established. numerical achievements (e.g., numbers of participants, numbers of users) were viewed as indicators of outcomes. In addition, participants looked for changes in teachers and changes in students.

Discussion of the Findings

A number of themes consistently emerged in the analysis and discussion of the process of curriculum implementation as exemplified by Project WILD. They are reviewed below.

COMPLEXITY AND OVERLAPPING NATURE OF THE PROCESS

The unfolding of the model for implementation and the discussion of the phases and factors reveals the complexity of the process. Implementation does not occur in isolation. It is affected by what occurs before it and after it as well as during it. So many factors influenced events in this process that it became difficult to sort them out and understand how they influenced the process and to what degree. In addition, the interplay between and among the factors compounded efforts. Sorting, categorizing and labeling, while helpful in lending meaning, also tends to over-simplify very complex processes.

The overlapping nature of the process became very evident in the unfolding of the story. The chronology of events continually showed that what occurred at one level or in one phase began in time in another level or phase. In this way, implementation began during development at the national level and during initiation and adoption at the state level. From the national perspective, the development phase influenced implementation in two major ways. First it built an audience which was waiting in line for the program long before development was completed. This facilitated initial implementation efforts in that the national leaders did not have to go out immediately and sell the program. Second, development involved teachers which in turn shaped the quality and appeal of the materials. In addition to the overlapping influence of development was the interrelated historical influence of WREEC and Project Learning Tree. People hypothesized that if Project WILD had preceded Project Learning Tree, then it would not have achieve the levels of implementation that it did in the same time frame. While recognizing that wildlife may be inherently more appealing than trees, they contributed much of the success of Project WILD to the way paved by Project Learning Tree. The latter provided the models for development and implementation and forged the way for the wildlife agency to become the lead agency for Project WILD in most states. While the history of Project WILD was also influential at the state level, it did not directly impact on the final adoption decision from the perspective of the Department of Education.

SAFEGUARDS TO IMPLEMENTATION

Two elements seemed to serve as safeguards to the implementation process. The first was the overall quality and nature of the Project WILD materials. They were cited as one of the strengths of the program and a help in implementation. More importantly, the nature of the materials would have enabled a person to use them without attending an inservice program. This related to many of the characteristics of the innovation previously discussed including complexity, program match and practicality. The inservice might have increased the probability that more people would have used them more effectively for a longer period of time but it was not essential to understanding how to use the activities. Because of this, the materials could overcome possible weaknesses in the workshop.

The second safeguard was the structure behind the workshops. The established guidelines set minimum standards which reflected effective inservice education practices. Through these, people inexperienced in conducting workshops were given a skeleton of a format for a workshop which assured a certain degree of quality and effectiveness. These two elements combined protected the implementation process.

WORKSHOPS AND THE MULTIPLIER EFFECT

Workshops were consistently cited as the most important strategy for implementation in spite of evidence in the literature indicating that one-day workshops are not effective. Part of the support emerged again from the nature of the program. Workshops which address changes which are not complex or focus on awareness and motivation are more likely to be viewed positively and to achieve their objectives. In addition, the quality of the workshop which resulted from applying effective inservice education strategies contributed to the support of the workshop approach. These workshops were local based, involved teachers, used a variety of strategies, employed demonstration and practice, and provided practical ideas and material.

The workshop approach for Project WILD in this state depended upon the use of volunteers as trainers of trainers of teachers. This strategy was also cited by the participants as a positive aspect of implementation. More importantly, the data indicated that this approach succeeded in practice. The leadership workshop modeled the strategies which facilitators were to use in the teacher workshops. Not only did the key elements of the model transfer from one level to the next, but the levels of quality were maintained. In this way, Project WILD could reach more people while maintaining expectations of quality.

FLEXIBILITY

Another major theme which permeated every level of implementation centered around flexibility. The commitment to this concept dominated Project WILD. It began with the driving philosophy that every state was inherently different and, therefore, no one "best" approach to implementation existed. What worked in one state might not have worked in another state. In addition, the people within the state were in the best position to determine what might work best for them. This attitude existed within the framework of the guidelines for implementation established by the national steering committee and resulted in autonomy within commonality. For example, according to the implementation guidelines, the Wildlife Agency would have been the typical lead agency. However, in the research state, the Department of Education adopted the program. This posed no problem from the national perspective and, at that point in time, it worked best for the state.

Within the state, the local approach to workshops reflected this same concept of flexibility within structure. The leadership workshop provided the skeleton but the local facilitator created and shaped the body in the context of local circumstances. The three facilitators observed in this study each conducted uniquely different workshops which were uncommonly similar. The national guidelines were met but the people, places, times of year, available facilities, and, most importantly, the local needs shaped entirely different workshops around the guidelines--voluntary versus required, credit versus non-credit, one day versus two days versus three two-hour sessions, at school versus a natural area, single staff versus whole district versus open invitation, and/or use a team approach or not with a resource person. The guidelines provided for flexibility within structure.

The materials themselves promoted flexibility. They were designed to help educators teach what they were already teaching in perhaps a different or more effective way. Teachers were encouraged to use the activities as written or to adapt and modify them to meet individual needs. They could do them according to the sequence of the book (i.e., awareness to action) or reorder them to fit their specific objectives. They could use them to teach one subject or to teach a topic or concept from an interdisciplinary perspective. They could emphasis content and/or skills.

In addition, they were encouraged to integrate the activities into their existing curriculum, but, again, not in one "best" acceptable way. The major concept which emerged from the educator level related to approaches to integration. The activity guide suggested a range of possibilities of use. Project WILD leaders strived for the highest possible use while accepting the value of the range of uses. These ranges related to how well the usage of the materials was anchored to the existing curriculum--that is, degrees of integration. In some cases, the activities were loosely anchored and in others moderately or firmly anchored. In practice a range of integration was evident but the highest level was not achieved. Research based upon CBAM levels of use and levels of concern suggests that tautly anchored usage would not occur, in all probability, without further inservice education and staff development opportunities.

This emphasis on flexibility at all levels of implementation relates to concerns over the gap between the ideal and reality. In the past, curriculum implementation efforts were viewed as failures, in part, because the innovation in practice did not match the innovation in intended design. Often the innovators ignored the constraints of local circumstances and the nature of the individual practitioner. Leaders of Project WILD attributed much of its success to the recognition of these factors. They acknowledged the reality of the gap and built flexibility into the program in an effort to eliminate or lessen the gap.

SIGNIFICANCE OF THE TEACHER

Related to the flexibility issue was an inherent respect for teachers and the value of their role in all phases of implementation. In not predetermining how the materials had to be integrated or how the activities had to be conducted, the developers confirmed their faith and trust in teachers' abilities to make decisions and judgments which would lead to implementation of the materials in an educationally meaningful way. The involvement of teachers in the inservice workshops showed a value for their role as contributors to, not just recipients of, staff development. Finally, teachers shaped the whole program in their role as developers and the ensuing influence upon implementation. Project WILD was designed for educators, by educators, by educators rules.

PARTNERSHIPS

However, Project WILD was not developed exclusively by educators. It was the result of a powerful partnership between people representing resource management and education which was initiated by WREEC, fostered by Project Learning Tree and nurtured by Project WILD. A relationship which began tenuously, at best, emerged as a significant shaper of the development and implementation of Project WILD as well as of the people and agencies involved in the program. The blending of philosophies, educational experiences and abilities, wildlife content expertise and experience, material and financial resources, and people enhanced the program in innumerable ways. The partnership created Project WILD. Project WILD, in turn, provided unanticipated opportunities for personal and professional development for the partners. While the partnership was still maturing and experiencing growing pains, it was recognized as one of the most influential forces shaping development and implementation.

FATE AND THE HUMAN ELEMENT

Throughout the phases and levels of implementation, this theme surfaced repeatedly. Since it represents a research variable which is next to impossible to measure, manage, manipulate or tangibly observe, fate and the human element is often ignored, inferred or subsumed. Yet, this element emerged as a very overt and direct force in this study. This process of implementation was filled with people. Their human qualities and personalities determined events and shaped decisions which influenced the process. In the same way, happenstance, fortuity, synchrony, and coincidence existed and implied an uncontrollable element at work. The effects of fate and the element were as real as the more documentable forces and factors in the study.

Implications and Recommendations

This case study provides an in depth view of curriculum implementation as exemplified by one project in one state. Since, as revealed in the study, context plays a very important role in the process of implementation, implications from this study must be considered in light of the context. However, many of the findings have been supported by other research and may apply to other settings.

While Project WILD represented one set of supplementary instructional materials, the way in which teachers used them may not vary significantly from how they would use other supplementary materials. If teachers perceive the textbook as the curriculum and all else as extra, then they may tend to more loosely anchor supplementary materials. If, however, they have a broader conception of curriculum, then supplementary materials may not just be added on but exist as an integral part of the curriculum. One state leader expressed this view:

> I don't see anything, any activity that is done by learners as supplemental. The definition of curriculum is what occurs to learners during a given period of time and so the Project WILD activities, if they are done, they are automatically a part of the curriculum and they are not supplemental in any sense of the word...as far as the classroom day goes, whatever happens is part of the curriculum. (Mark)

This view of curriculum would encourage more tautly anchor activities.

In view of the implementation of educational programs in general, it is not surprising to find Project WILD implemented through a variety of approaches. The degrees of anchorage relates to a reality of implementation--that gap between the ideal and the intent. Other implementation efforts could be examined to determine the degree of implementation. Much of the effort behind CBAM research examines differences in the levels of use. What is surprising with Project WILD is the complete acceptance of and valuing of these ranges. This, again, is based upon the respect for the teachers' ability to make professional judgments about what works best in a given educational context. Curriculum developers perhaps need to recognize and value the need for flexibility in programs if they want them to work effectively for teachers in their settings. In addition, they need to find the critical point at which too much flexibility becomes unappealing. On the one hand teachers ask for flexibility in order to make a program work in their context while on the other hand they want materials that are easy to use, ready to use, do not require much preparation, are not complex and are clear about goals and means. This presents a major challenge to curriculum developers but one perhaps which should be met rather than ignored.

Project WILD also delivers clear messages about inservice education. While the literature indicates an almost universal displeasure over inservice education and staff development, Project WILD workshops consistently received ratings of "one of the best I have ever attended." This certainly related to the quality of the materials, but also to the quality of the workshop. The literature points to effective strategies for inservice education. Project WILD employed most of them. They worked. People developing inservice programs need to look at involving teachers in the whole process from planning to actively participating in the program but, most importantly, they need to provide quality workshops. Workshops should utilize a variety of strategies and incorporate the concept of presentation, modeling, practice and feedback.

While the specifics of this case study are unique to this program and this state, the five phases of implementation and many of the factors are probably relevant to other programs and situations. People responsible for curriculum implementation may find an understanding of the complexity of the process and the overlapping nature of the phases within the process useful in developing systematic and comprehensive plans and realistic time lines. Variations of this implementation approach may well work for other programs and at other levels. For example, a statewide program could involve local school district adoption and implementation, local building facilitators and classroom teachers. The model is useful in identifying the general flow of events and factors which affect the flow. The process, however, may begin at different levels. Flexibility would be the key in adapting this approach to other situations.

While this study illuminates much of this process, it leaves many questions unanswered and poses new ones. In the breadth of this study, some of the depth is lost. More research on the classroom use of the materials is necessary. Little is still known about the educational impact of Project WILD. Much of the information on this aspect is based upon participants' perceptions of student learning and educational value. To some extent, activities succeeded if they went well and students responded favorably to the "doing" of the activity.

What is the effect of degrees of integration on learning? Are 10 loosely anchored activities as effective as 5 tautly anchored activities. What would be the effect on anchorage if more follow-up to the workshops existed? What should be the nature of that follow-up? Since workshops influenced the selection of activities, what are the implications of that for workshop planning? Are "Habitat Lapsit" and "Oh! Deer" used so often because they are used in so many workshops or are they inherently appealing enough that teachers would use them anyways? Finally, this study was limited in time, location and educational setting. Studies looking at implementation three or more years after the workshop could provide valuable information on longevity and integration. Comparisons of this implementation process to that used in other states would broaden the conceptions of the process. Studies of nonformal educational settings would also provided helpful information on use.

APPENDIX A

TEACHER LETTER AND ACTIVITY FORM

project WILD
Salina Star Route, Boulder, Colorado 80302
(303) 444-2390

October 15, 1985

Dear Teacher,

Welcome to the growing number of people promoting wildlife education in through Project WILD! By using the activities in your classroom and other teaching, you will be helping to achieve one of the major goals of Project WILD--preparing young people for decisions affecting people, wildlife, and their shared home, earth.

I would like to ask you to make another contribution to Project WILD. Since its beginning in , I have been actively involved in the implementation of Project WILD as a consultant and as a facilitator. In addition, I have been conducting research on the implementation process for Project WILD, tracing it from the national office to the actual use of the materials in the classroom. Information from this study will be used by the Department of Education and the Department of Natural Resources for future planning for Project WILD and by me in my doctoral dissertation.

You have been selected as one of fifteen teachers to participate in this phase of the study. If you agree, I am only asking you to do two things:

--Talk to me about your use of the materials. This would involve one in depth interview (one and a half hours) and possibly a follow-up phone call (10 minutes).
--Keep an on-going record of your use of Project WILD activities through December, 1985. (see attached form).

Your efforts will be helpful in increasing our understanding of curriculum implementation so that we can improve future endeavors. In order to do this, I need your insights as an experienced professional who is using the program. This study is in no way intended as an evaluation of you, your students or the materials. Your identity will remain completely confidential.

I hope you will accept my invitation to participate in this research. I will be in touch with you soon regarding your decision. If you have any questions, please feel free to call me at ( ) (home) or at ( ) (work).

Thank you for your consideration in this matter.

Sincerely,

project WILD

ACTIVITY RECORD

Teacher's Name ______________________________

Today's Date ______________________________

Name of Activity ______________________________

Day(s) and Date(s) Used Activity ________________

Approximate Time Of Day ______________________

Amount of Time to Complete Activity ______________
hours minutes

Where did you do the activity? Check one or more locations.

- ___ Classroom
- ___ Gym
- ___ Playground
- ___ Other ______________________________

With what subject areas did you use it? Check one or more.

- ___ Language Arts
- ___ Math
- ___ Science
- ___ Social Studies
- ___ Other(s) ______________________________

Did you adapt the activity in any way, changing it from the way it is presented in the guide?

- ___ Yes
- ___ No

If yes, how?

What was the most effective part of the activity? Why?

OVER

What was the least effective part of the activity? Why?

What were the students' reactions to the activity?

I would use the activity again next year or with another group?

__ Yes, definitely
__ No
__ Yes, but with the following changes:

Why did you choose this activity to do?

How did it fit into your curriculum? Check one or more.

__ Part of a unit
__ Supplement to text
__ Part of graded course of study requirement
__ Just for fun
__ Other ______________________________

Other Comments:

APPENDIX B

SAMPLE INTERVIEW QUESTIONS

QUESTIONS FOR NATIONAL LEADERS

Introduction: Review who I am, my history with PW, my study. Emphasize that I am in no way evaluating the interviewee or his/her program and that his/her identity will remain confidential.

Background Information
- Education; environmental courses
- Work experience
- Current position responsibilities
- Wildlife, environmental, outdoor interests (past and present)

Program Initiation and Preworkshop Planning

How did PW first get started? Whose idea was it?

What has been your role in the development of PW?

As a member of the steering committee, can you describe for me the committee's recommendations for implementing PW into the states? How have these recommendations been interpreted in your state? OR

Describe the implementation process--what series of actions or stategies have been undertaken to put the program into effect and to get teachers to use it? (e.g., advisory committees, inservice workshops, promotion, college credit, newsletters)

How was the implementation process first initiated? by whom?

Currently, how are these actions or strategies carried out in your state? by whom? How does that differ from other states?

How was this approach arrived at? by whom?

Which of these actions or strategies would you rank order as the three most important in assuring the success of the implementation process?

What has been your role in the implementation process?

Is there anything about this process that makes you believe it works? If so, what?

What do you see as the major strengths of the implementation process? major weaknesses?

If you could design the implementation process all over again, how would you do it differently?

What do you believe are the major goals of PW?

How do the implementation strategies help to achieve these goals?

Who is responsible for decisions about the implementation process? national? state? local?

Who are the most important players?

What kinds of decisions do these people make?

What conditions (e.g., curriculum mandates, administrators, equipment, budget, inservice policy) exist at the national, state, local and school levels to facilitate implementation? impede?

Has there been any controversy surrounding PW? If so, what is it? Has it affected the implementation process? If so, how? Has it affected the program? If so, how? In your view, does it threaten PW in any way? How?

What do you predict will be the longevity of PW? with current teachers? spreading to new teachers? in what form?

Who keeps the ball moving--who are the shakers and the movers? How?

What do you think should be the continuing role of the state departments of education in promoting the use of PW? role of the wildlife agency?

Are you familiar with how PLT is implemented? If so, how is the implementation process for PW similar to and different from that of PLT? Why?

Inservice Workshops

What do you believe are the purposes of the facilitator workshops? How well do you feel the workshops succeed in reaching these purposes? What are their strengths? weaknesses?

What do you believe are the purposes of the teacher workshops? How well do you feel that they succeed in these purposes? What are their strengths? weaknesses?

It is my understanding that all facilitators must attend a leadership workshop to become qualified to conduct teacher workshops and to receive and use the activity guides? Do you agree with this policy? If yes, why? Should any exceptions be made? Why? If no, what alternatives? Should the same policy hold for teachers? Why?

Who should lead the first facilitator workshop in each state? Why?

Is there a "type" of person that you believe makes the most effective facilitator (i.e., job responsiblities, personal characteristics)? Why?

How do you think that people should be selected to become facilitators (e.g., first come vs. meet set of criteria)? If by criteria, what should that be?

How do you feel about offering college credit for the workshops? Do you believe that it influences how much or the way that teachers would use the materials? Why or why not?

What emphasis (i.e., number of hours, percent of time, in what form) do you believe that each of the following should have in a facilitator workshop:

- wildlife content information?
- PW activities?
- conceptual framework?
- how to integrate PW into the curriculum?
- educational process--management, learning styles, inquiry approach?
- how to conduct an effective teacher workshop?

For each of these areas, would the emphasis change any for a teacher workshop? If so, how? If not, why not?

Classroom Use

What do you believe is the ideal way for PW to be used in the schools?

How do you believe that the materials are actually used? why?
- with what subjects?
- how often?
- which activities? how frequent?
- why these activities?
- how adapt?
- how integrate into the curriculum?
- is it part of an EE effort or total effort (e.g., grade level, K-6, subject)?
- which group of teachers use PW the most (e.g., primary, intermediate, middle, high)? Why?

How have you used the PW materials? Which activities have you used the most? Why did you choose these activities?

Do you believe that the way that the materials are actually used differs in any way from the original intent of the developers (e.g., goals, methods, skills)?

To what extent do you think there is room for supplementary materials in the curriculum (primary, intermediate, middle, high)? How much are they used?

To what extent do you think teachers find multidisciplinary activities useful (primary, intermediate, middle, high)? Why? How often are they used?

Are there any aspects of PW (e.g., topics, activities, concepts) that you think teachers would consider controversial? Why? Do you believe that they handle these controversial topics within their classrooms? If so, how?

What kinds of support materials (e.g., content video tapes, posters, masters for worksheets, newsletter) do you think teachers would find useful?

Who else do you recommend that I interview?

Other comments? Please feel free to contact me about other ideas you may have regarding PW. Thank you for your time.

APPENDIX C

RESEARCH QUESTIONS

RESEARCH QUESTIONS

Questions	Data Gathering Techniques
I. Program Initiation and Preworkshop Planning	
1. Who initiated the implementation process?	D, I*
2. Who is responsible for decisions about the implementation process?	D, I, O
3. What is the nature of the decisions made?	D, I, O
4. What strategies are developed for implementation? Why?	D, I, O
5. How are they carried through? By whom?	D, I, O
6. How do implementers at the national, state and local levels perceive the strategies?	D, I, O
7. How do the strategies correspond with the intent of the curriculum developers?	D, I
8. What conditions exist at the national, state, local and school levels to help facilitate implementation?	D, I, O
9. What obstacles exist at the national state, local and school levels to impede implementation? How are they overcome?	D, I, O
10. How is the implementation process for Project WILD similar to and different from that of PLT? Why?	D, I

(A = Activity Record Form; D = Documentation; I = Interview;
O = Observation; S = Self Reflection)

II. Inservice Workshops

1.	What is the purpose of the workshops?	D, I, O
2.	Who attends the workshops? Why?	D, I, O
3.	What is the nature of the workshops (content, process)?	D, I, O
4.	What perceptions do the Project WILD facilitators and workshop attendees have of the program prior to their workshop?	I
5.	How does that perception change after the workshop?	I
6.	In what ways do participants perceive the workshops as helpful? unhelpful? How change?	D, I
7.	Do the participants feel that it should be necessary to attend a workshop to obtain the guides? If not, what alternatives?	I
8.	Immediately after the workshop, how do participants intend to use materials?	I
9.	After the workshop, what are participants' perceptions of the potential success of the use of the materials?	I

III. Classroom Use

1.	How long is it before the teachers actually use or plan to use the materials in the classroom? Why?	I
2.	How are the materials actually used? with what subjects? how often? which activities? how frequent? why those activities? how adopt? adapt? how integrate in the curriculum? is it part of an environmental education effort or total effort?	A, D, O

3.	How does the use correspond to the intent, methods, skills, etc.	I, O
4.	How does the use correspond to the original intent of the developers?	I, O
5.	After using the materials, how would participants change the workshop?	I
6.	After using the materials, how do the teachers' perceptions of the materials change?	I
7.	After using the materials, what are the teachers' perceptions of success? what liked? disliked? how change activity? materials? how well students achieved?	I
8.	How do students react to the activities?	D, I, O
9.	Do teachers integrate the materials into the existing curriculum? If so, how?	D, I, O
10.	Do teachers who also use PLT use the two programs together? If so, how?	D, I, O

IV. Role of the Researcher

1.	How does my role as a consultant to the project director in Ohio affect the implementation process?	I, S
2.	How does my role as a member of the advisory committee affect the implementation process?	I, S
3.	How does my role as a trained Project WILD facilitator affect the implementation process?	I, S
4.	How does my role as a researcher affect the implementation process?	I, S

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